

EKDMOS V2.1

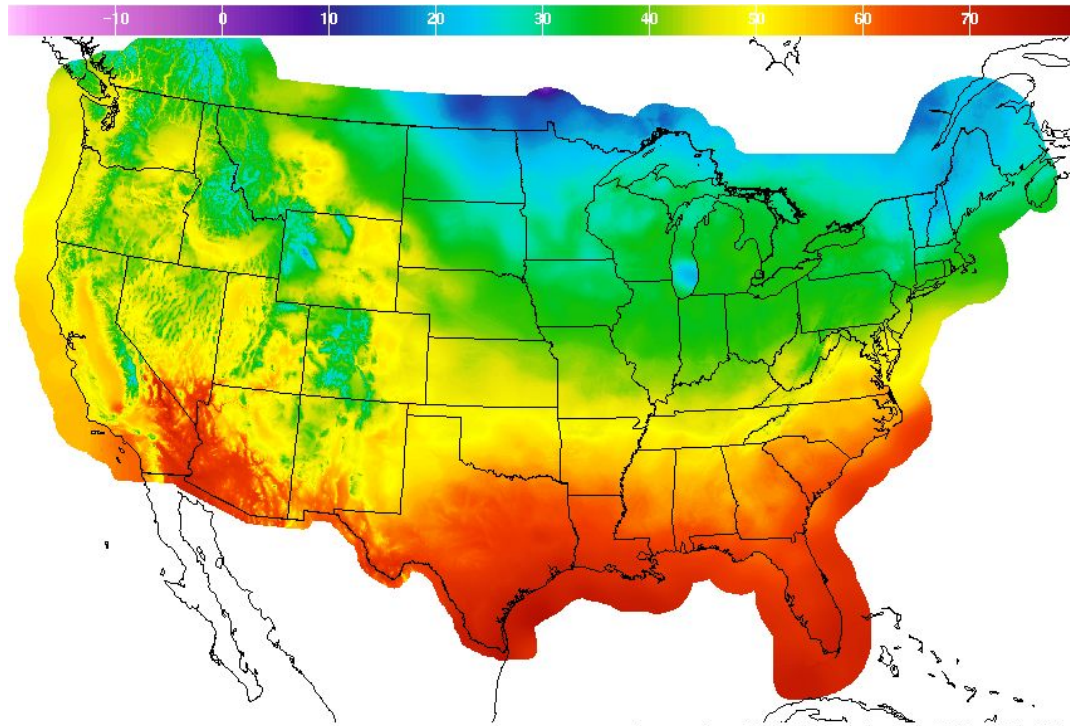
September 2017

MDL Statistical Modeling Branch

EKDMOS V2.1 - What's Changing

- Implementation in September 2017
- EKDMOS CONUS data expanded to full grid for use by NBM
- Clipped grids will continue to be disseminated to conserve space on the SBN
- Clipped grids were expanded to the west to include offshore marine zones
- This upgrade does not include any changes to station data or equations
- No changes were made to the Alaska, Hawaii, or Puerto Rico grids

EKDMOS V2.0 - 111-Hr 50% Temperature (F)



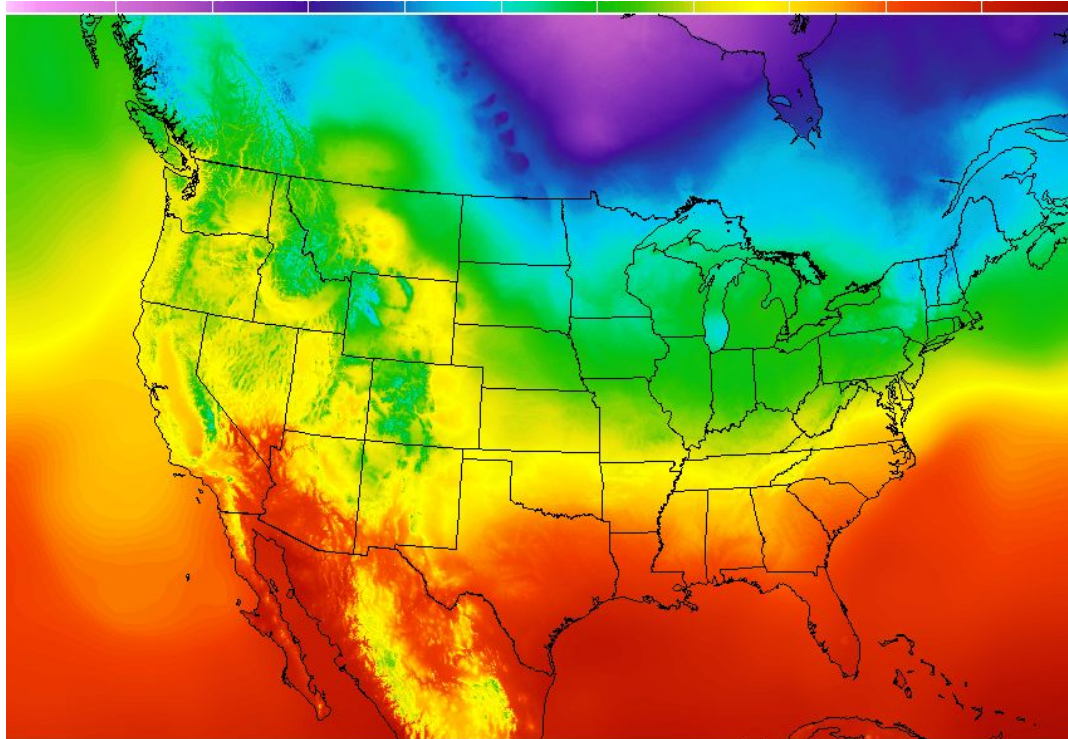
Currently
available



Temperature(F) 50% Sat Mar 18 2017 11AM EDT
(Sat Mar 18 2017 15Z)
NDGD Prototype EKDMOS
Graphic created-Mar 20 8:00AM EDT



EKDMOS V2.1 - 111-Hr 50% Temperature (K)



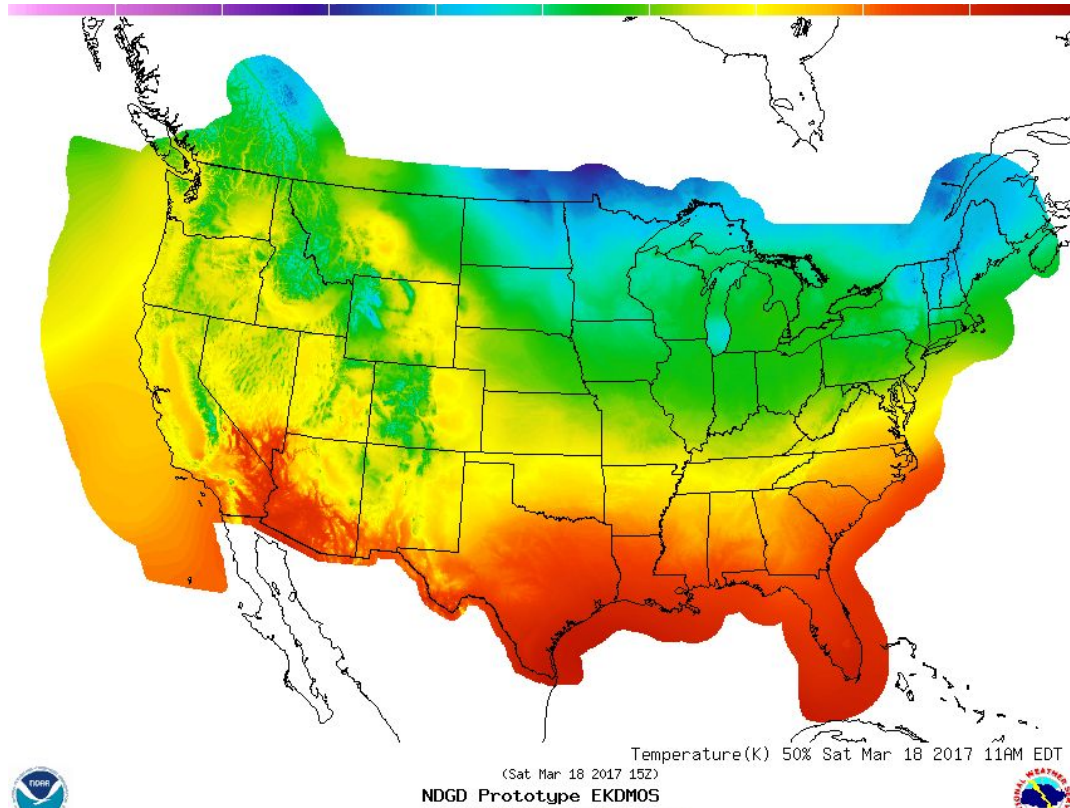
Available for
NBM



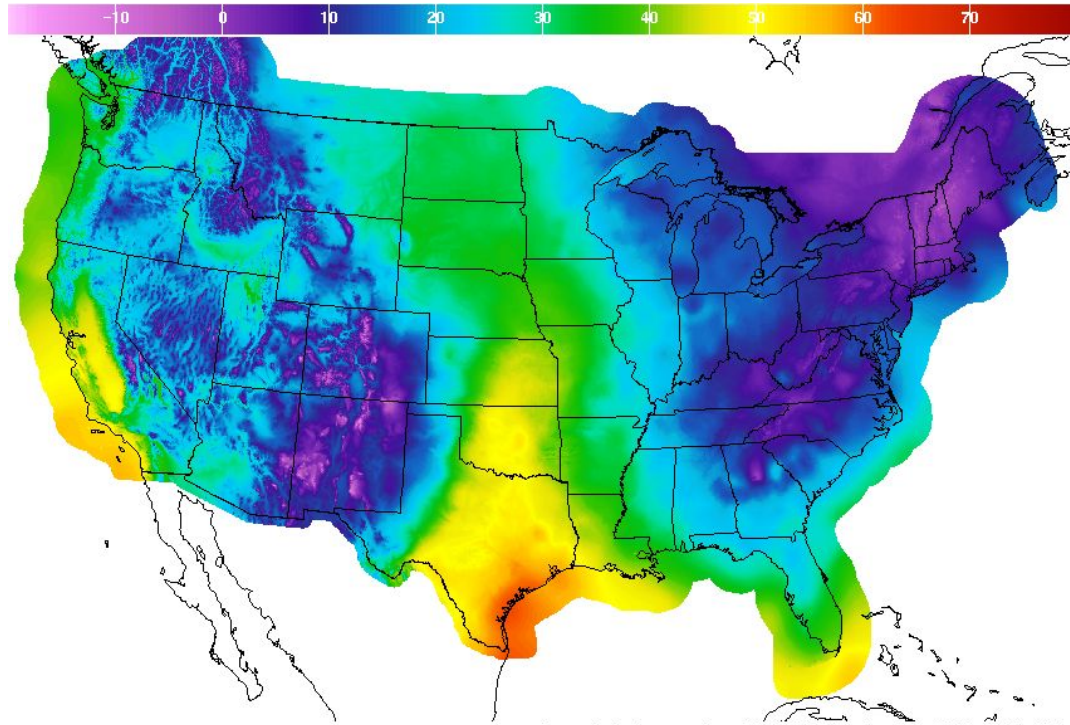
Temperature(K) 50% Sat Mar 18 2017 11AM EDT
(Sat Mar 18 2017 15Z)
NDGD Prototype EKDMOS



EKDMOS V2.1 - 111-Hr 50% Temperature (F)



EKDMOS V2.0 - 72-Hr 20% Dewpoint (F)



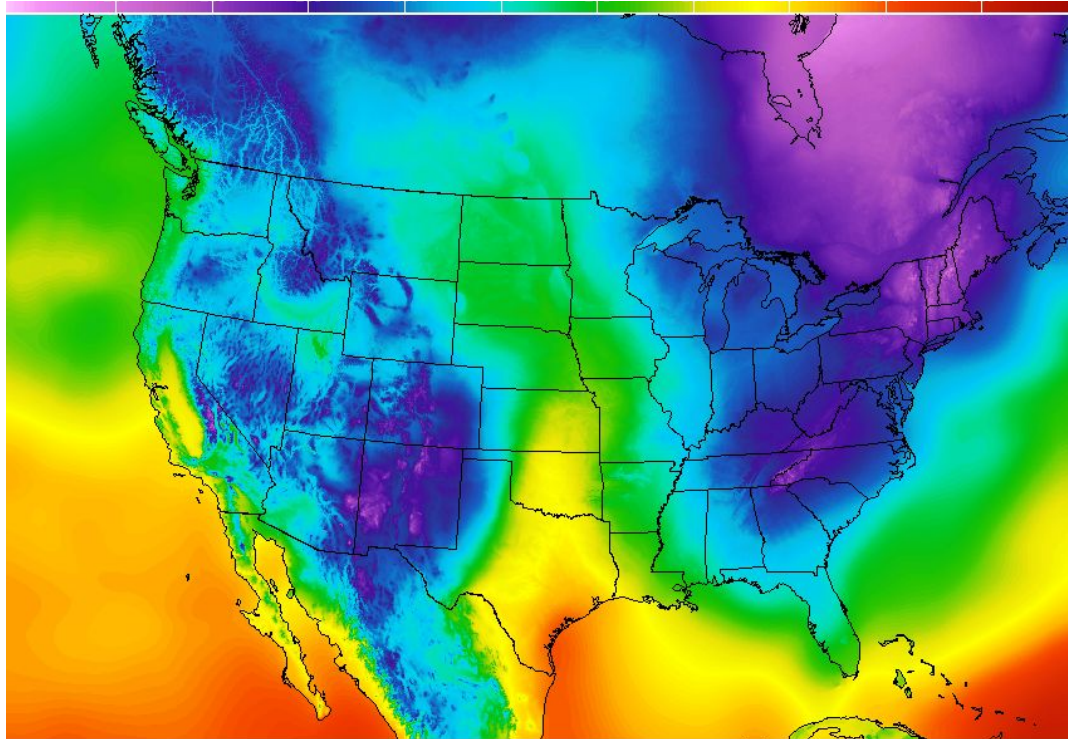
Currently
available



Dewpoint Temperature(F) 20% Thu Mar 16 2017 8PM EDT
(Fri Mar 17 2017 00Z)
NDGD Prototype EKDMOS
Graphic created-Mar 20 9:09AM EDT



EKDMOS V2.1 - 72-Hr 20% Dewpoint (K)



Available for
NBM

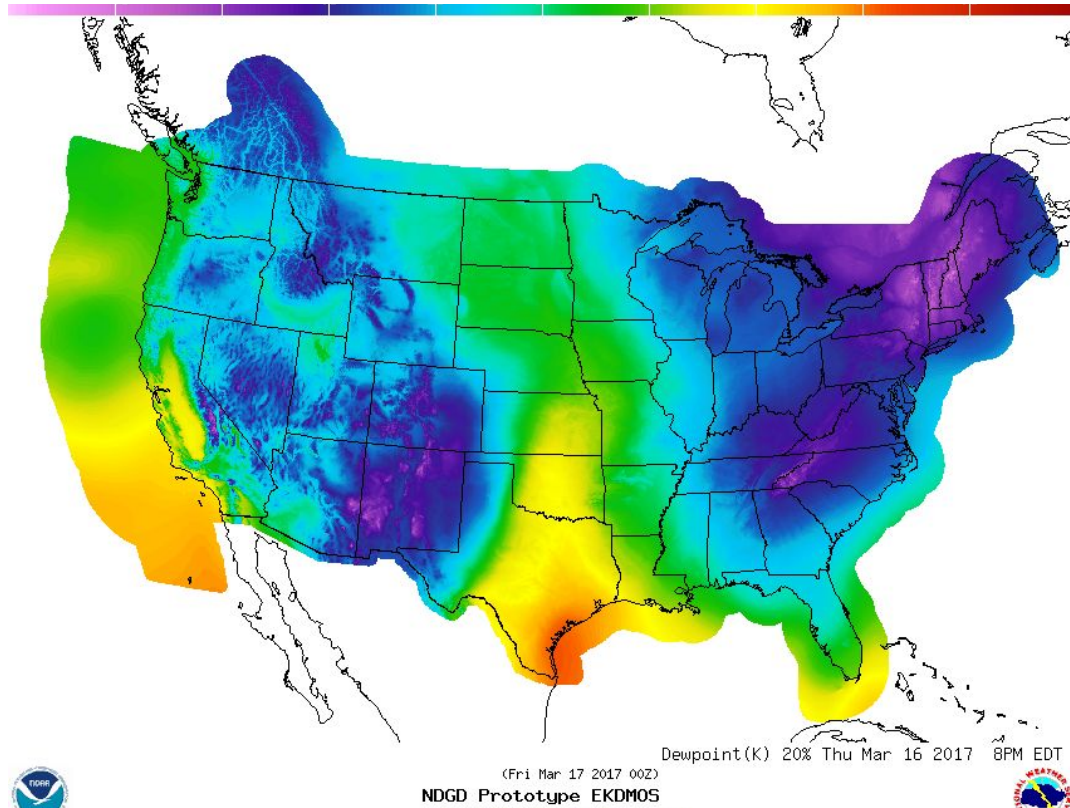


(Fri Mar 17 2017 00Z)
NDGD Prototype EKDMOS

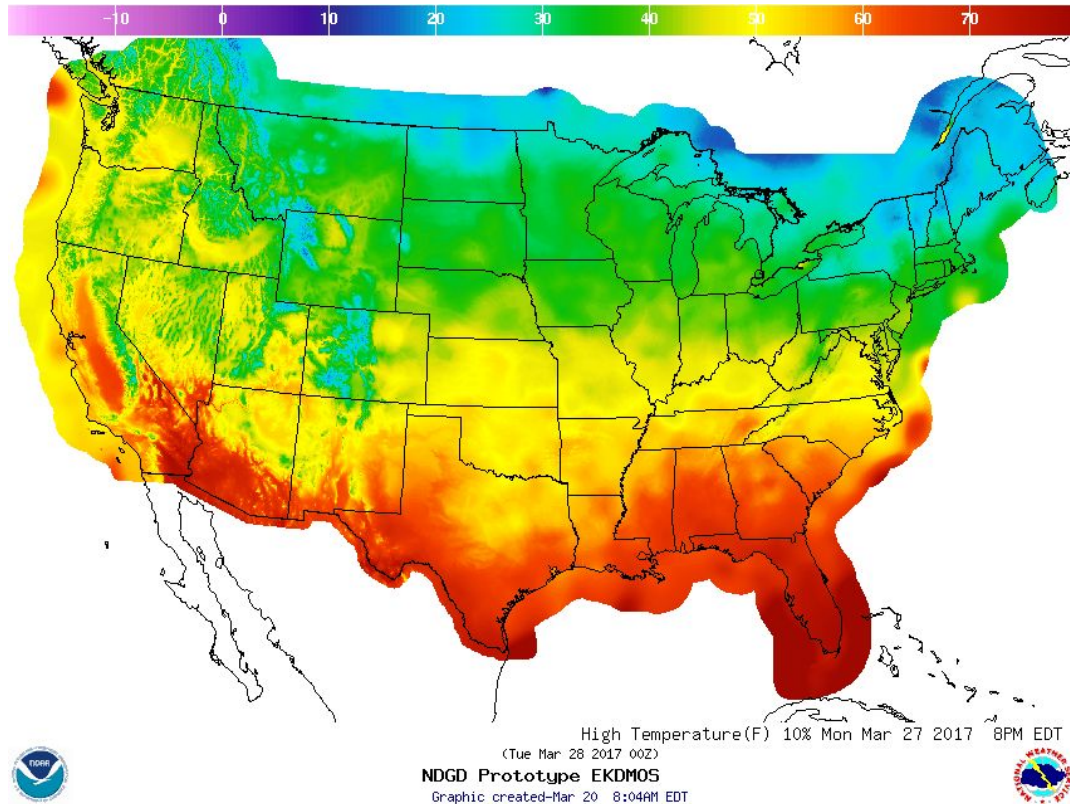
Dewpoint(K) 20% Thu Mar 16 2017 8PM EDT



EKDMOS V2.1 - 72-Hr 20% Dewpoint (F)



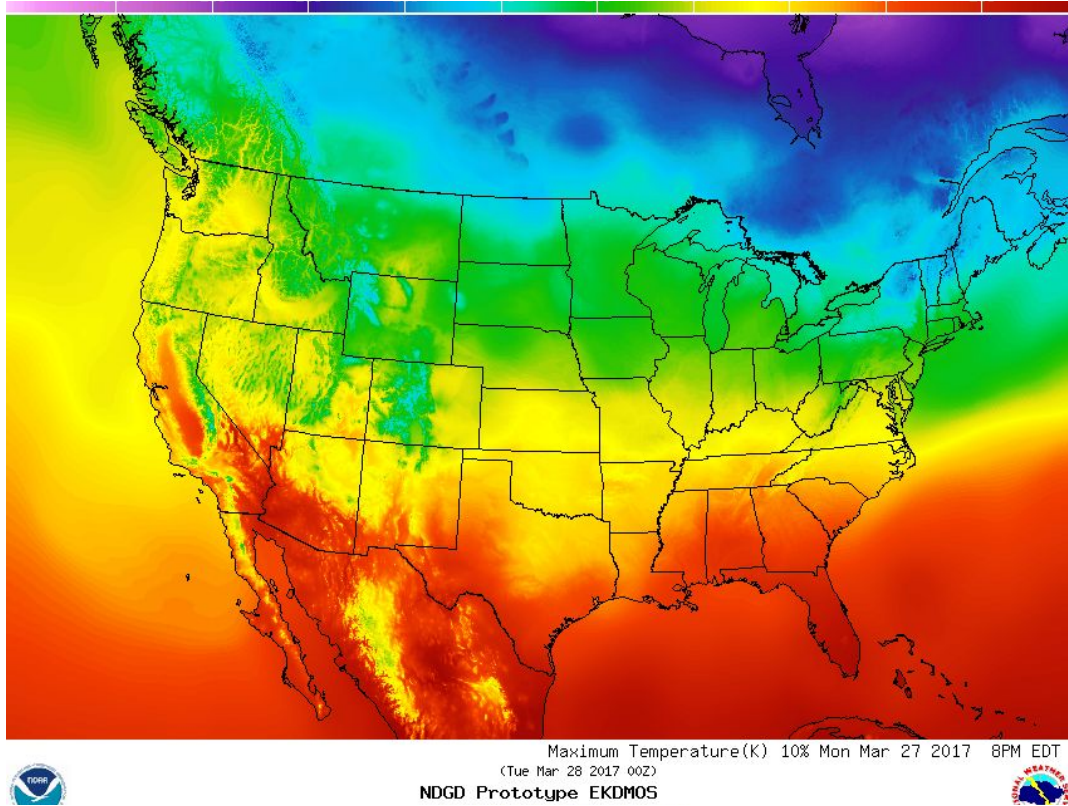
EKDMOS V2.0 - 336-Hr 10% Max Temperature (F)



Currently
available

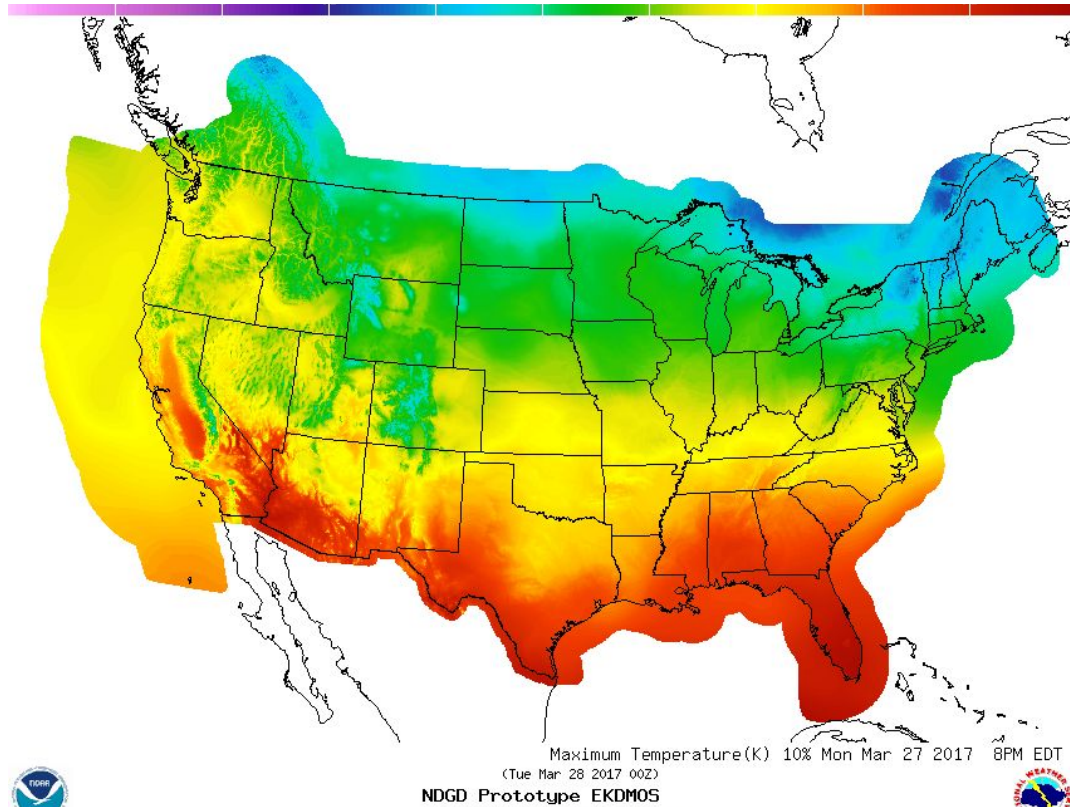


EKDMOS V2.1 - 336-Hr 10% Max Temperature (K)



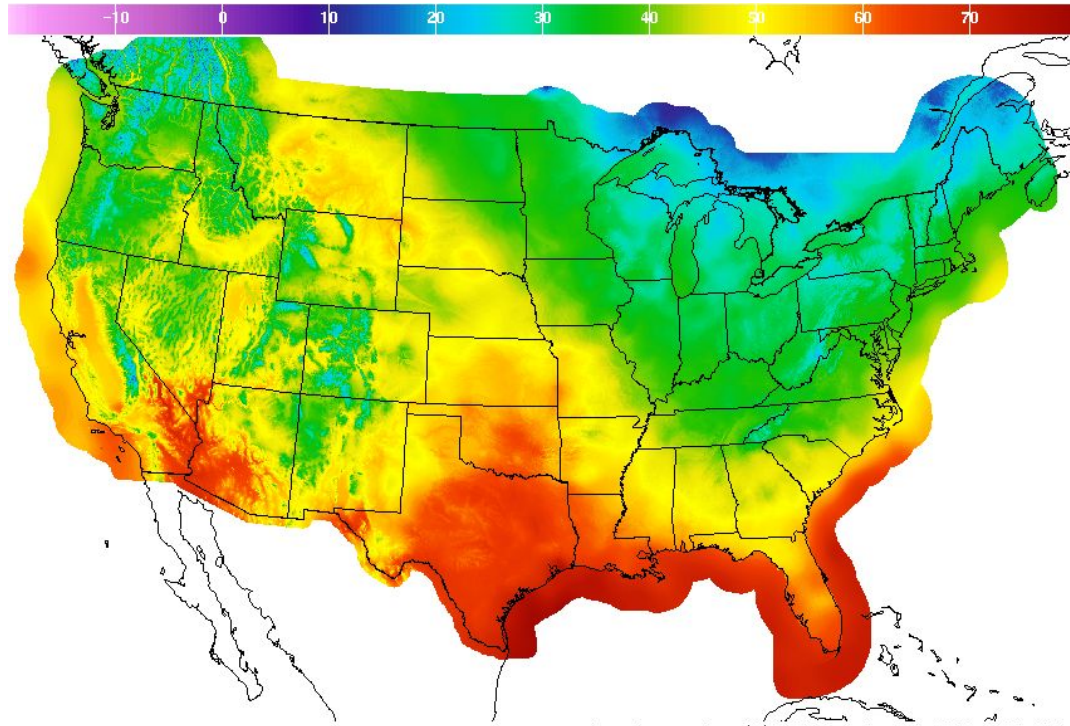
Available for
NBM

EKDMOS V2.1 - 336-Hr 10% Max Temperature (F)



Available on
SBN in
Sept 2017

EKDMOS V2.0 - 132-Hr 90% Min Temperature (F)



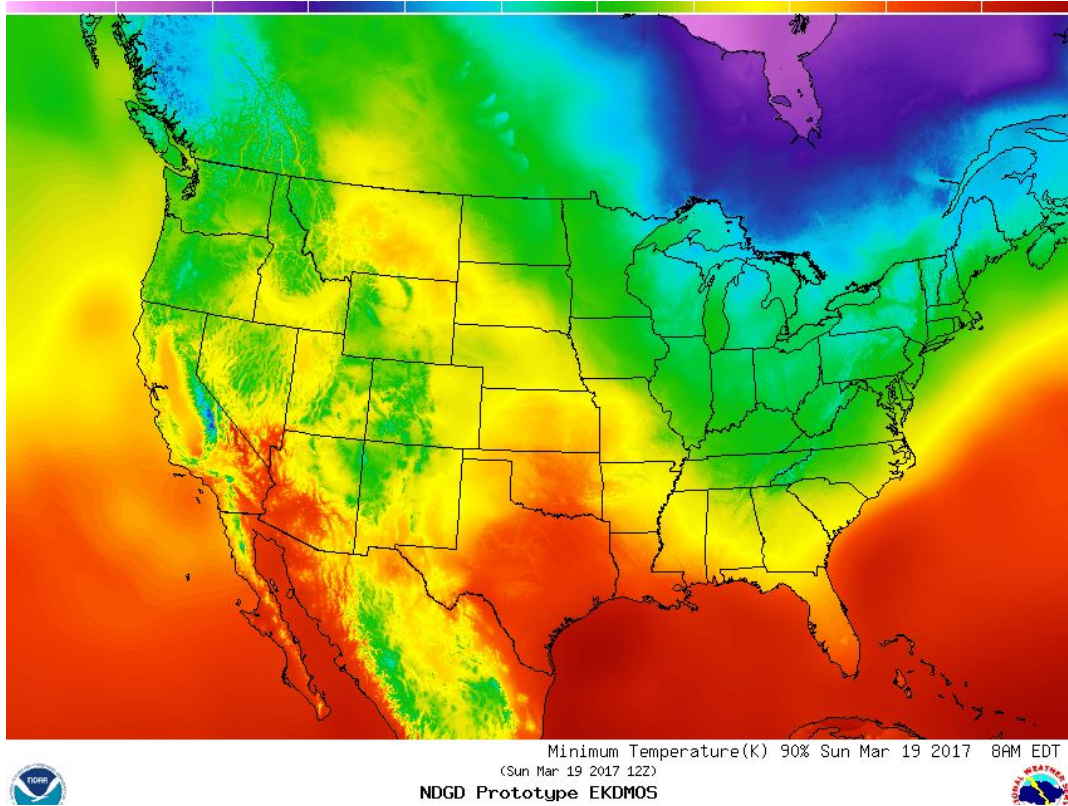
Currently
available



Low Temperature(F) 90% Sun Mar 19 2017 8AM EDT
(Sun Mar 19 2017 12Z)
NDGD Prototype EKDMOS
Graphic created-Mar 20 8:05AM EDT

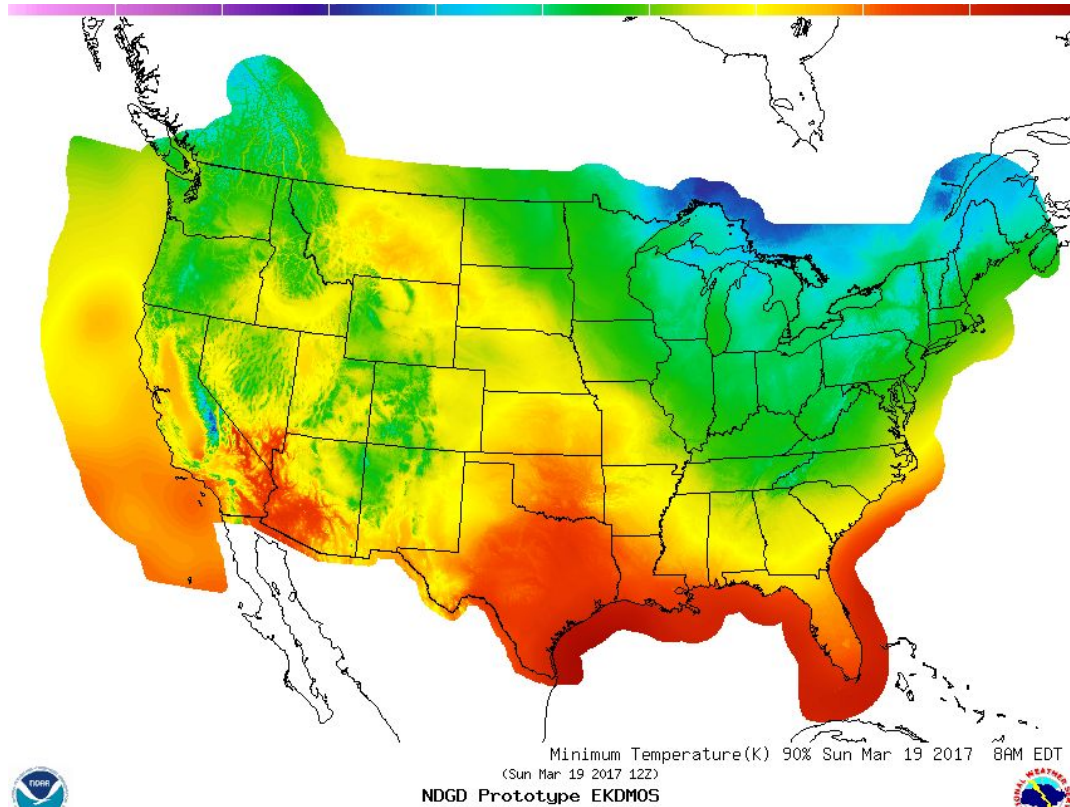


EKDMOS V2.1 - 132-Hr 90% Min Temperature (K)



Available for
NBM

EKDMOS V2.1 - 132-Hr 90% Min Temperature (F)

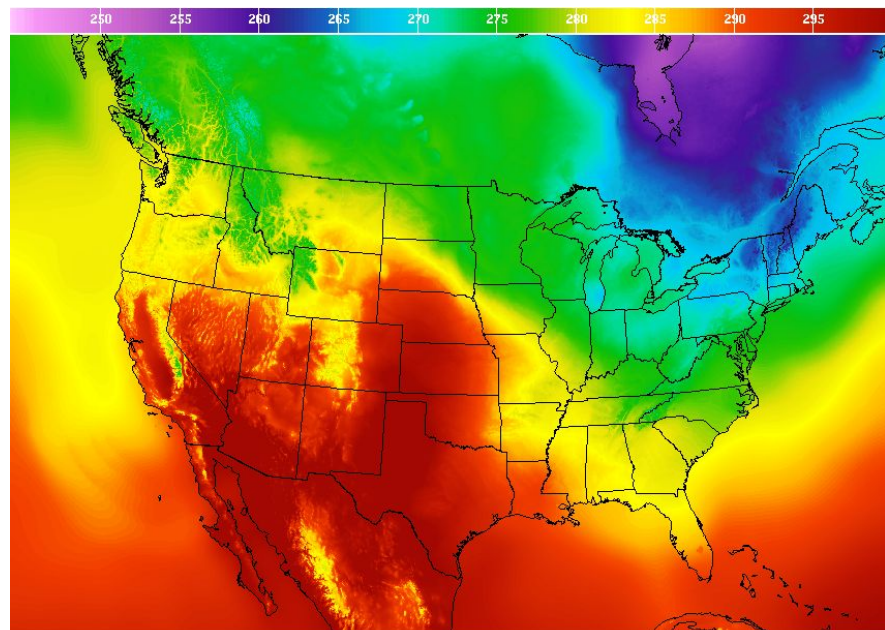


Available on
SBN in
Sept 2017

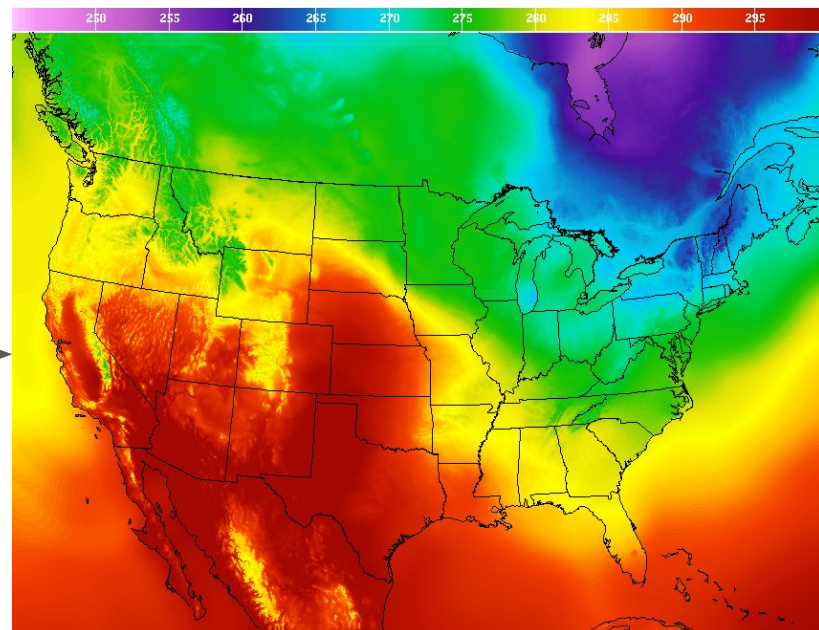


Verification

EKDMOS V2.1 grids were first clipped to match the operational URMA



EKDMOS Mean Temperature Thu Mar 16 2017 8PM EDT
(Fri Mar 17 2017 00Z)
NDGD Prototype EKDMOS
Graphic created-Apr 13 8:59AM EDT



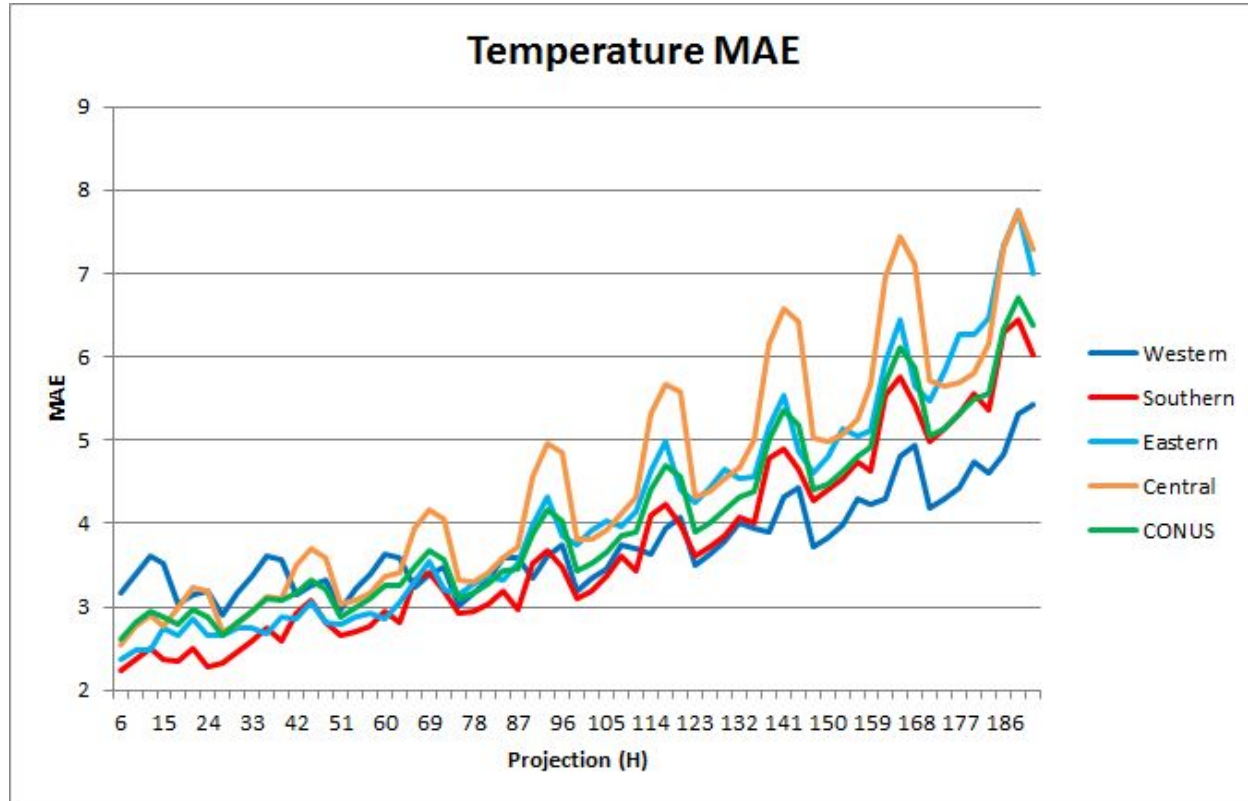
EKDMOS Mean Temperature Thu Mar 16 2017 8PM EDT
(Fri Mar 17 2017 00Z)
NDGD Prototype EKDMOS
Graphic created-Apr 13 9:22AM EDT



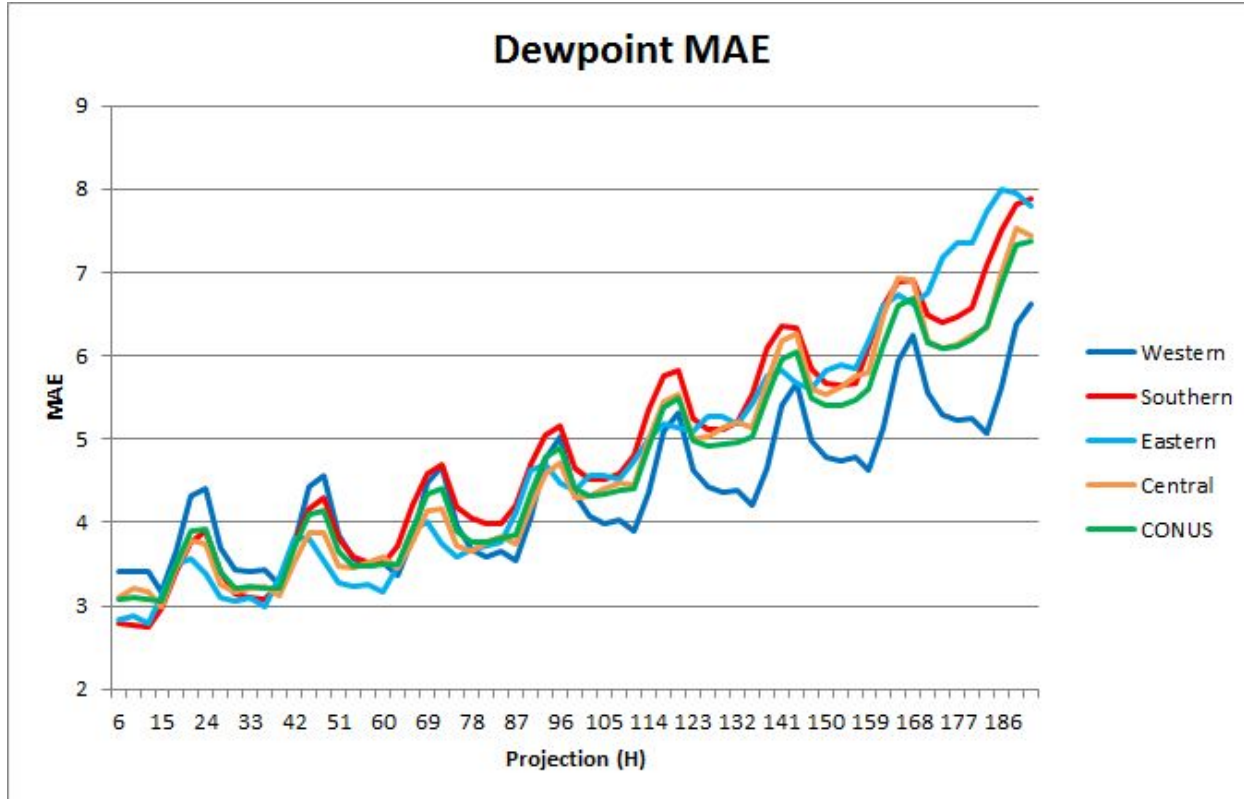
Verification Notes

- Verification performed for March 2017
- URMA grids were used as a “proxy for truth” for the overall CONUS as well as the Eastern, Central, Southern, and Western regions
 - Note that EKDMOS is tuned to station data, then analysed using the BCDG technique
 - EKDMOS is not tuned to URMA for this set of verification

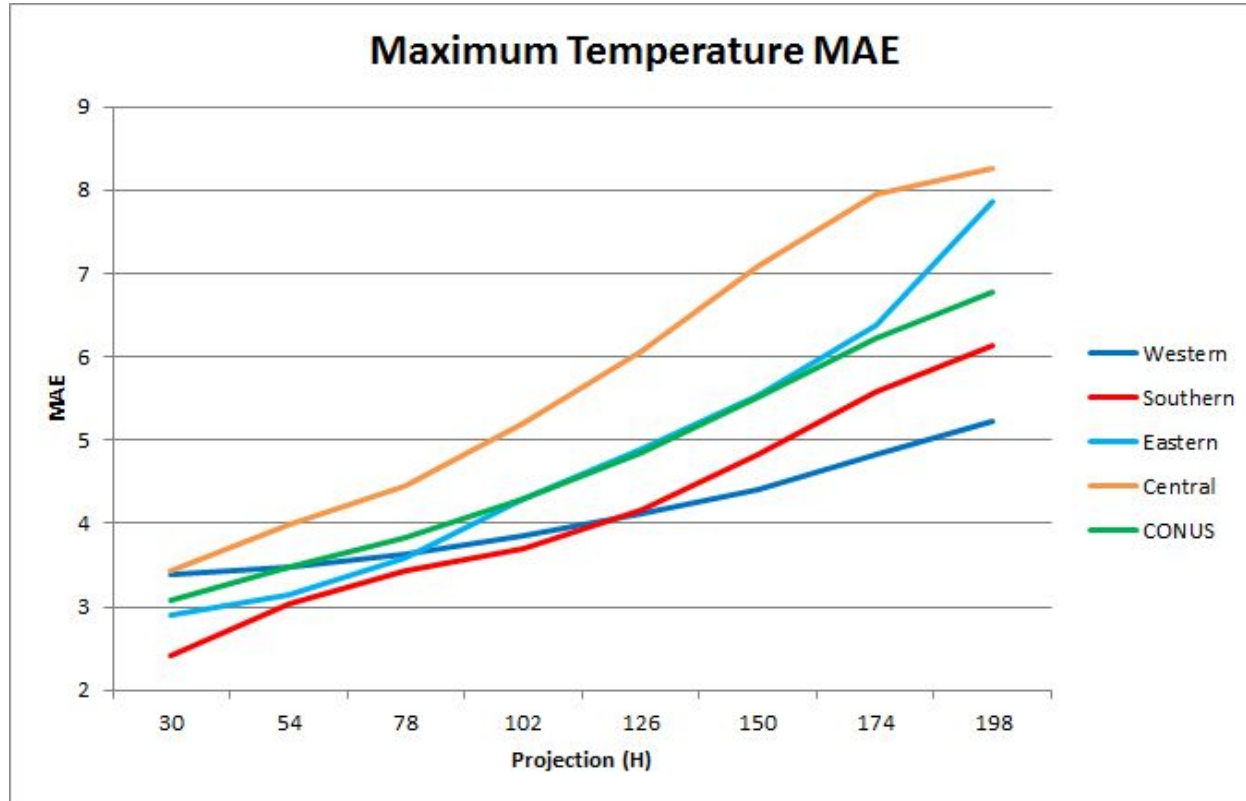
MAE - Temperature Mean - March 2017



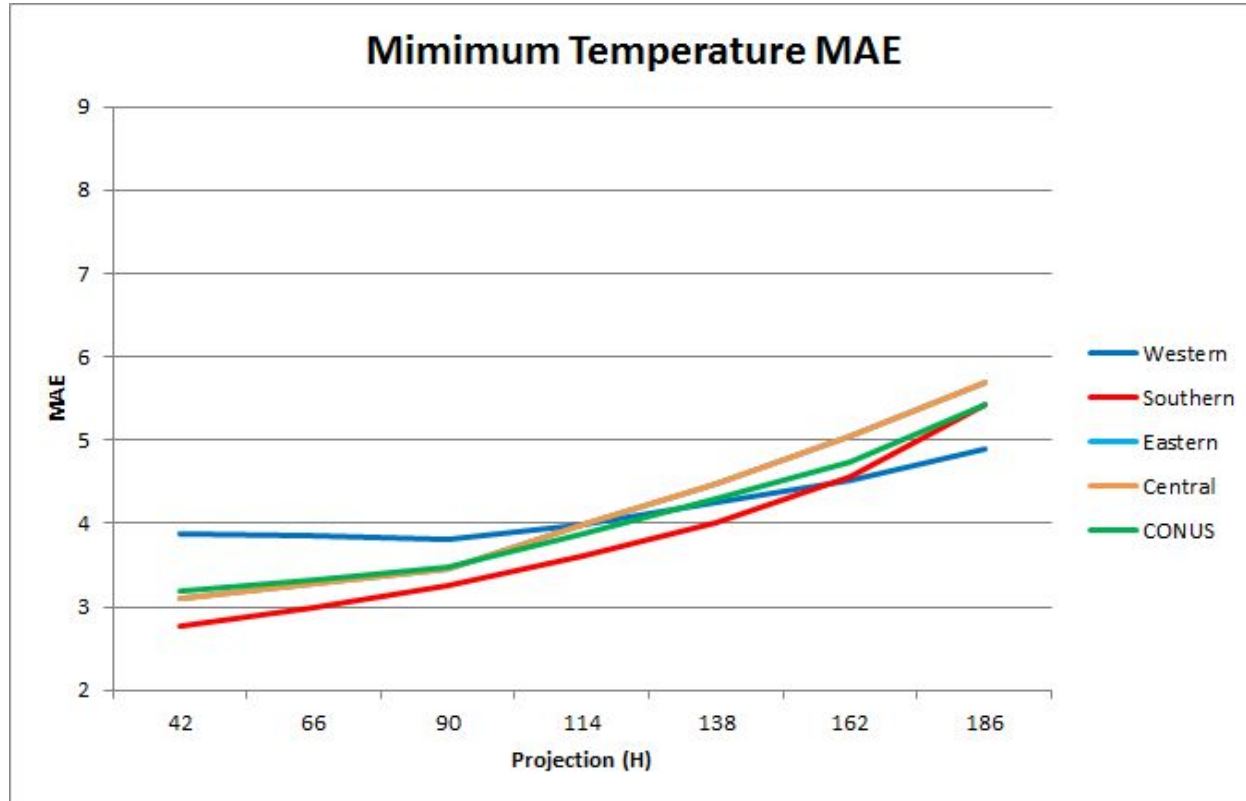
MAE - Dewpoint Mean - March 2017



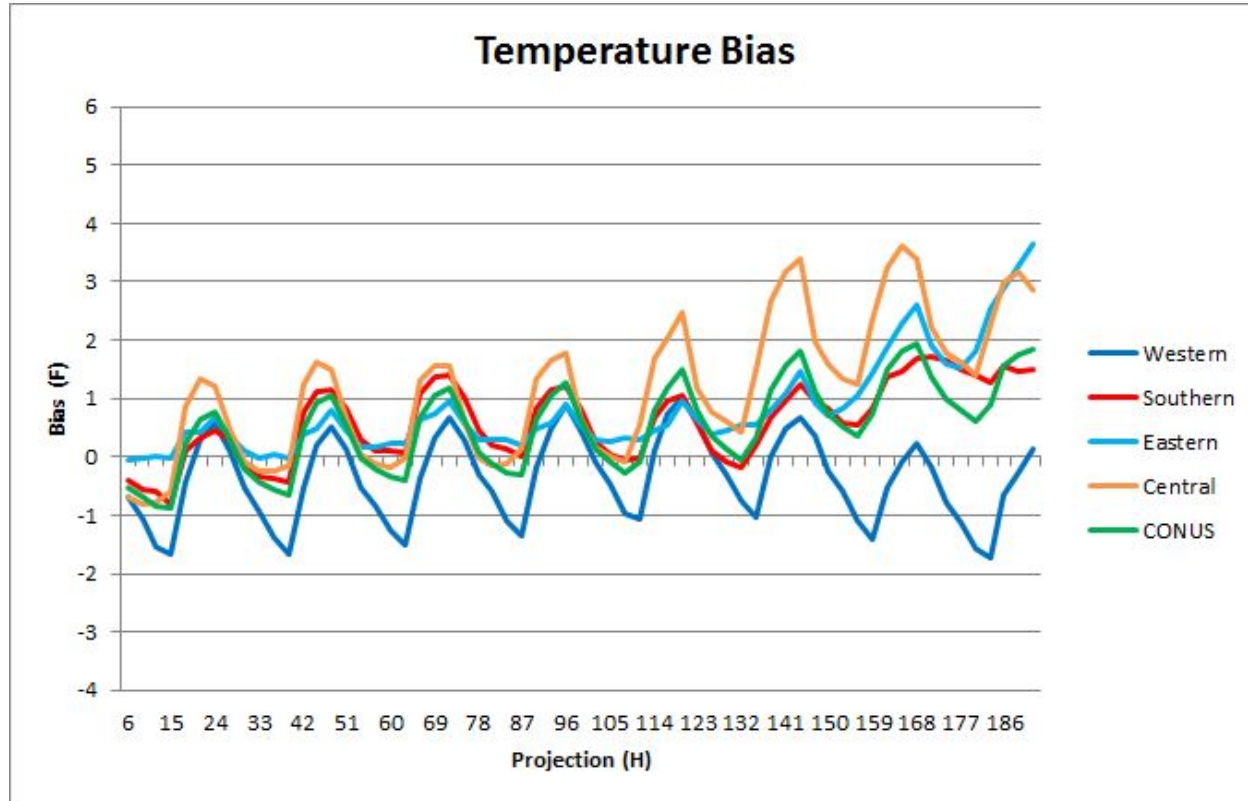
MAE - Daytime Maximum Temperature Mean - March 2017



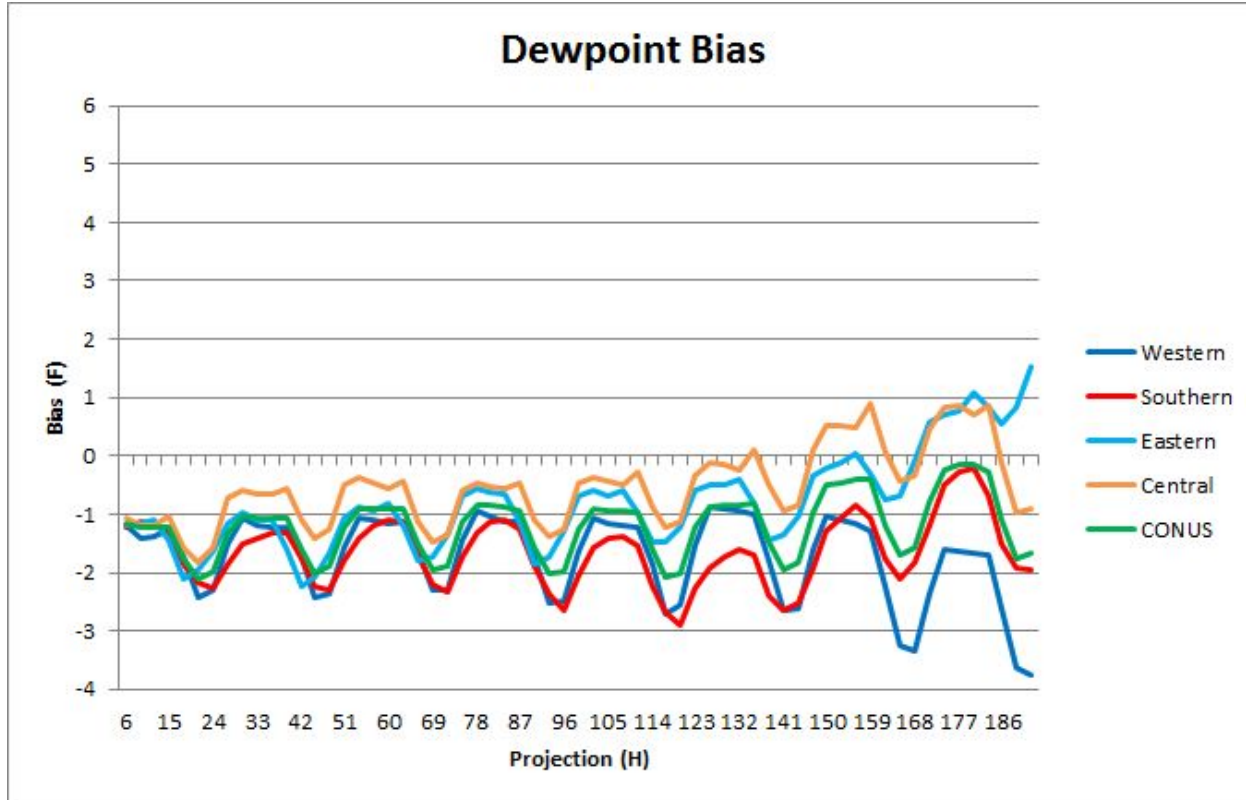
MAE - Nighttime Minimum Temperature Mean - March 2017



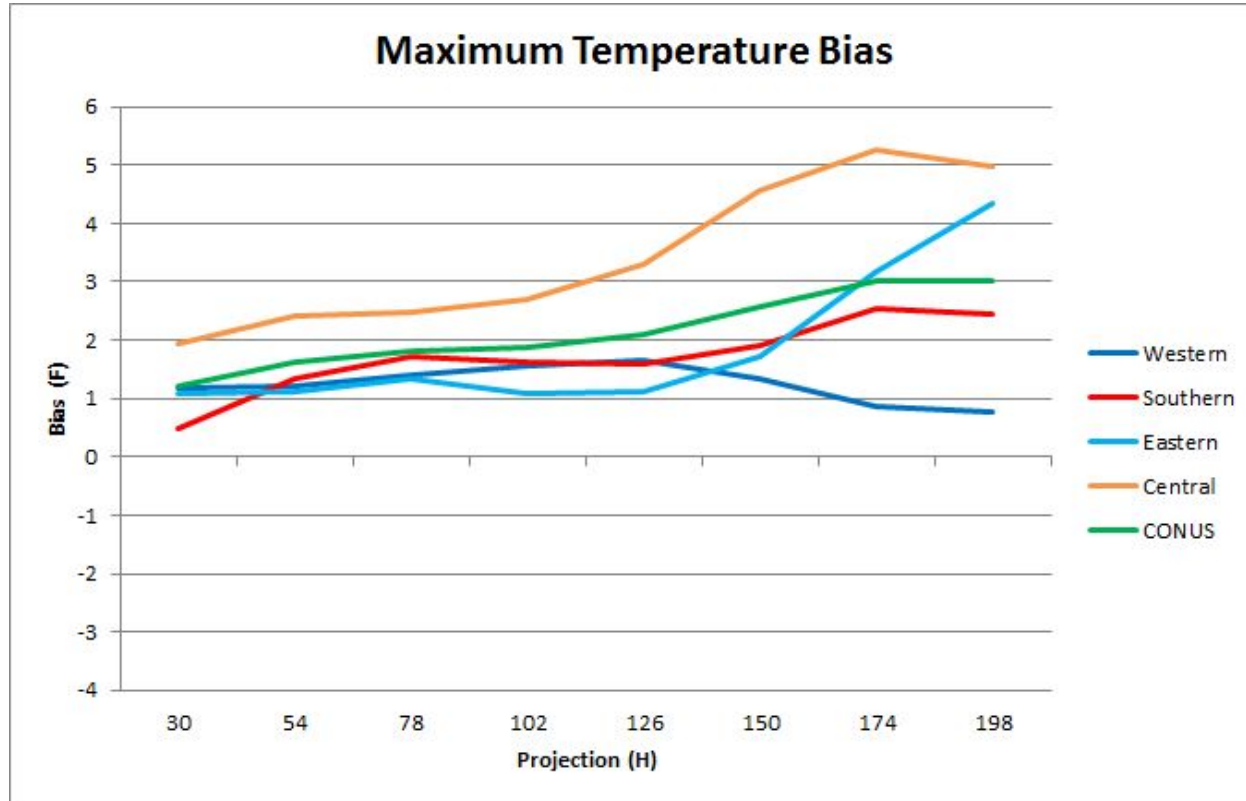
Bias - Temperature Mean - March 2017



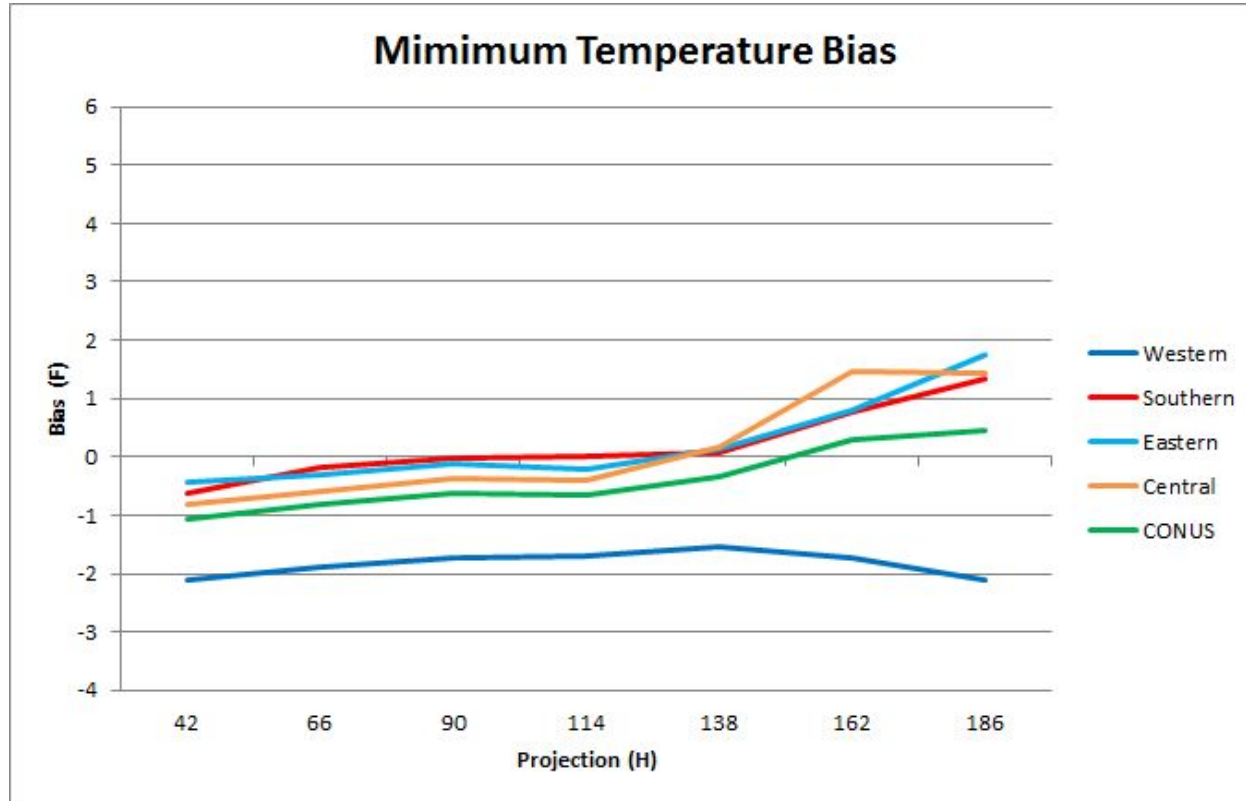
Bias - Dewpoint Mean - March 2017



Bias - Daytime Maximum Temperature Mean - March 2017



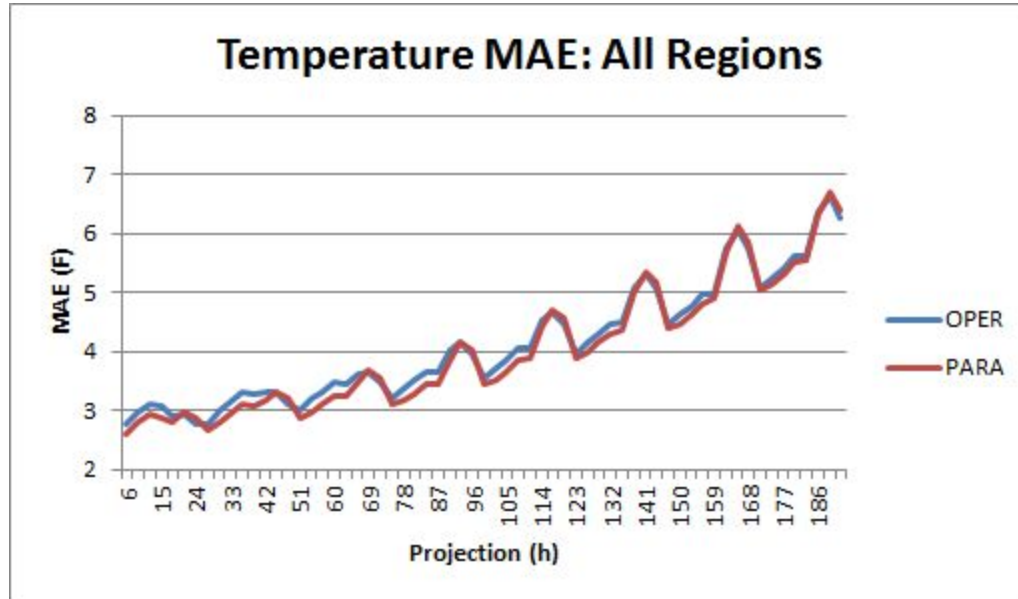
Bias - Nighttime Minimum Temperature Mean - March 2017



Verification Notes

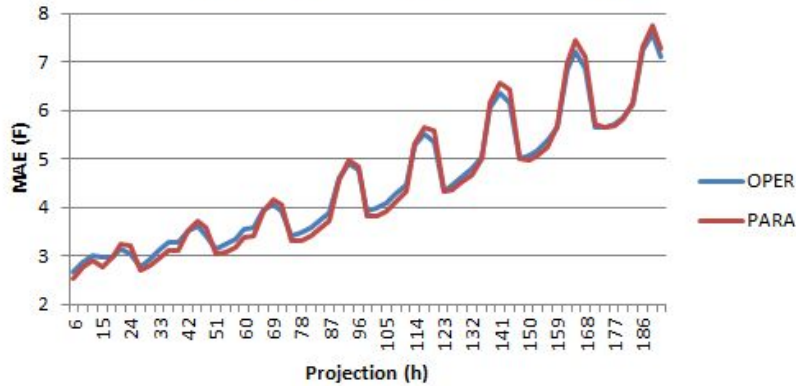
- Verification performed for March 2017
- Comparing Operational EKDMOS (V2.0) to the Parallel EKDMOS (V2.1)
- URMA grids were used as a “proxy for truth” for the overall CONUS as well as the Eastern, Central, Southern, and Western regions
 - Note that EKDMOS is tuned to station data, then analysed using the BCDG technique
 - EKDMOS is not tuned to URMA for this set of verification

MAE - Temperature Mean - March 2017

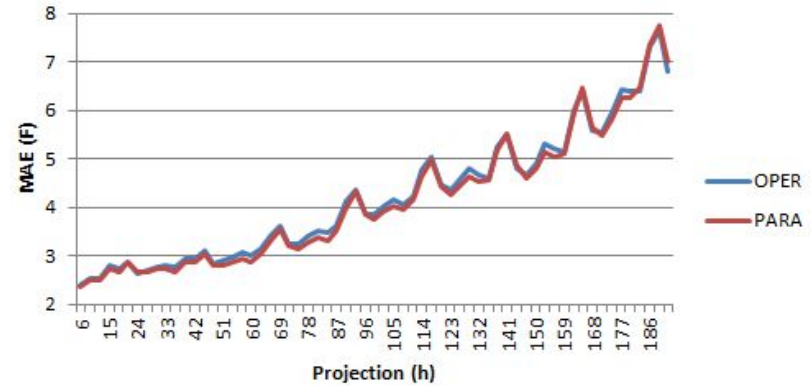


MAE - Temperature Mean - March 2017

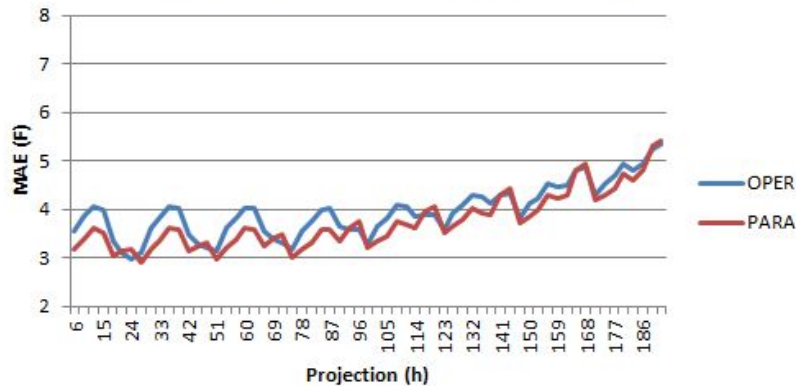
Temperature MAE: Central Region



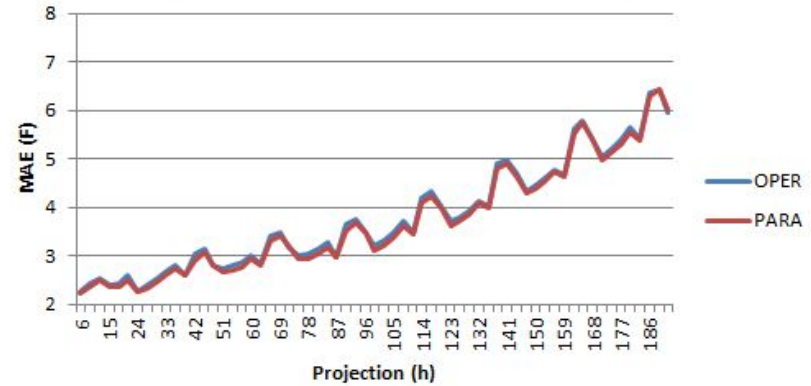
Temperature MAE: Eastern Region



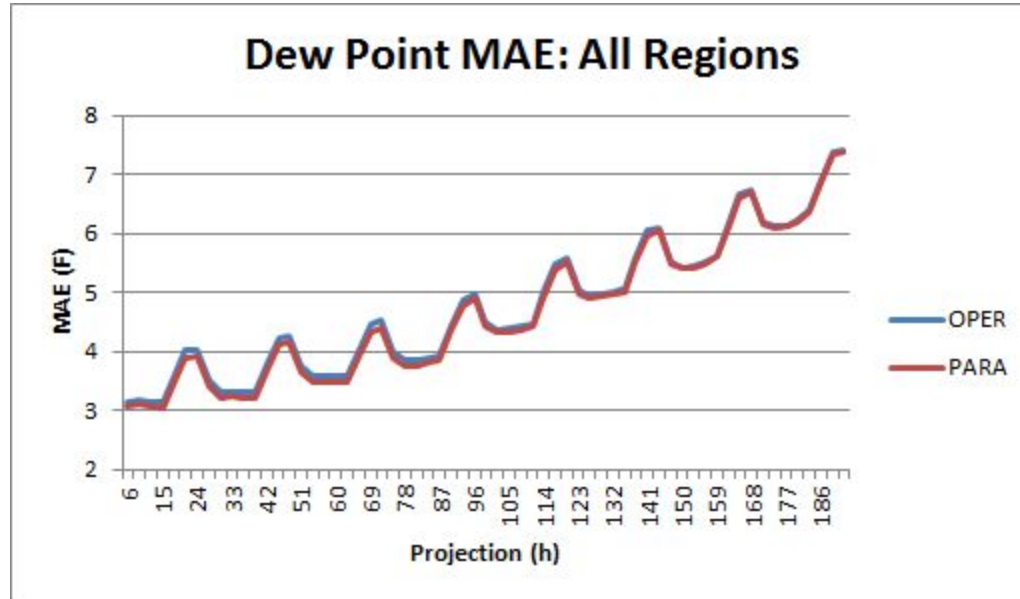
Temperature MAE: Western Region



Temperature MAE: Southern Region

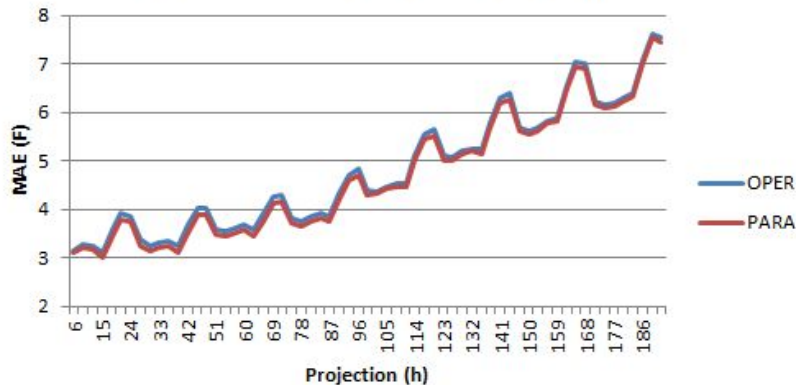


MAE - Dewpoint Mean - March 2017

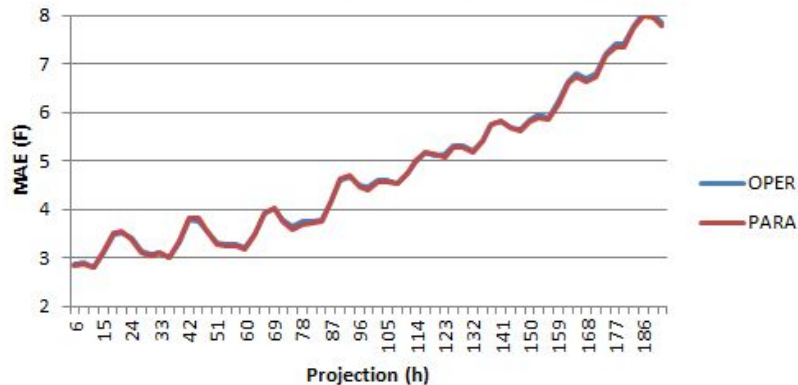


MAE - Dewpoint Mean - March 2017

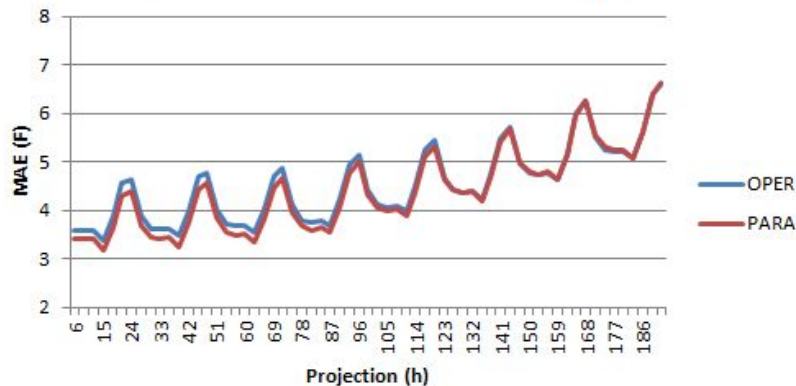
Dew Point MAE: Central Region



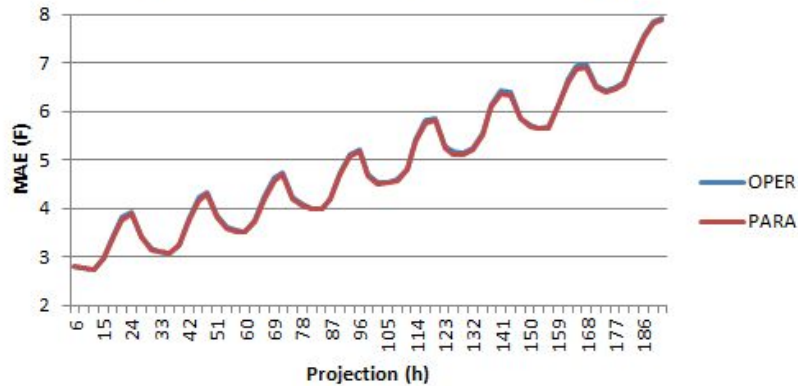
Dew Point MAE: Eastern Region



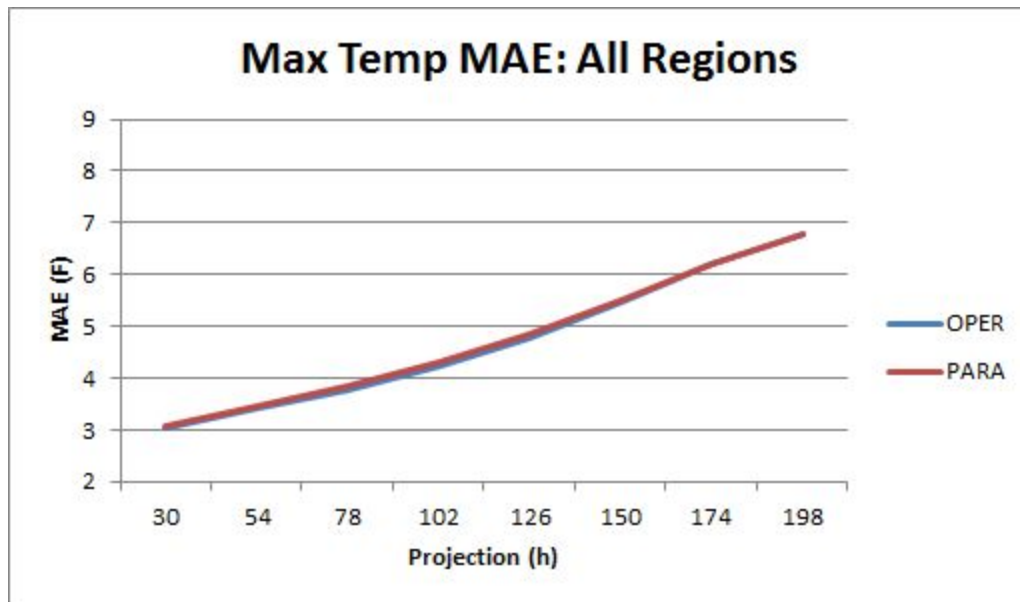
Dew Point MAE: Western Region



Dew Point MAE: Southern Region

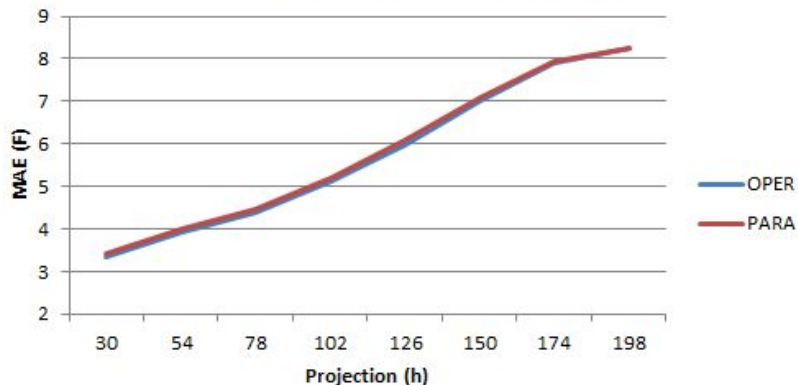


MAE - Daytime Maximum Temperature Mean - March 2017

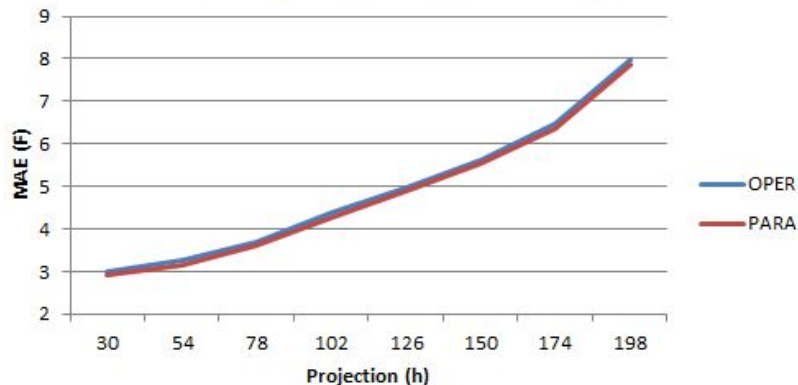


MAE - MaxT Mean - March 2017

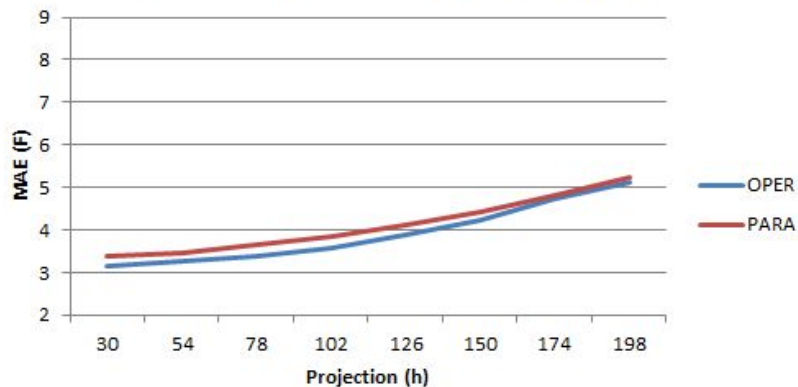
Max Temp MAE: Central Region



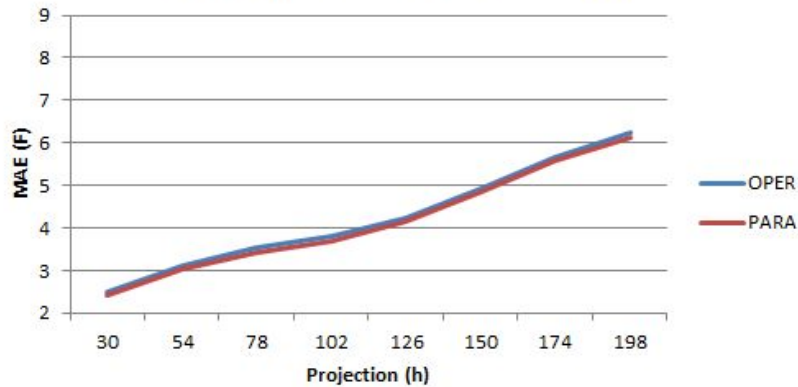
Max Temp MAE: Eastern Region



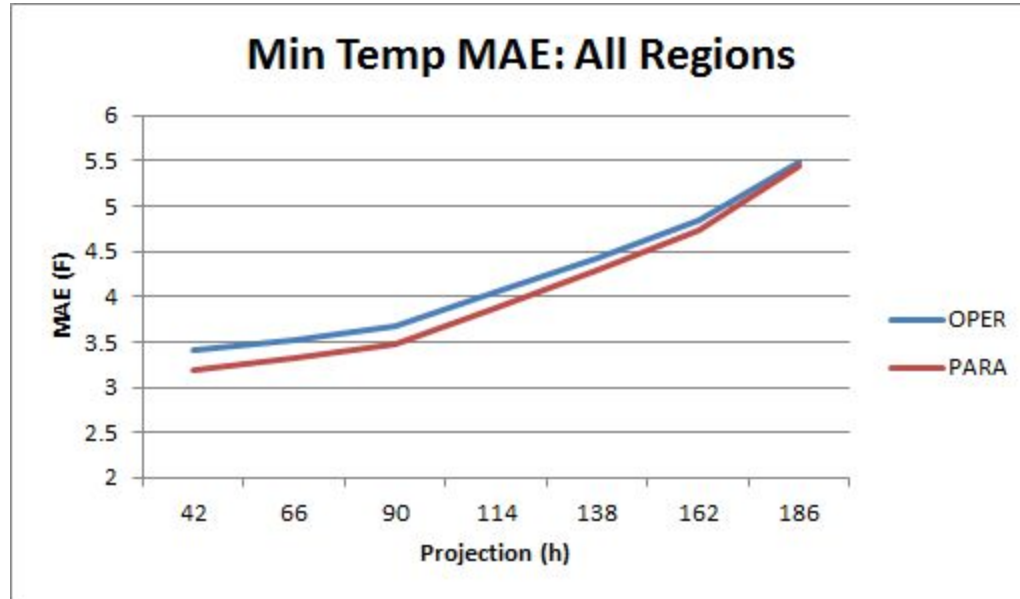
Max Temp MAE: Western Region



Max Temp MAE: Southern Region

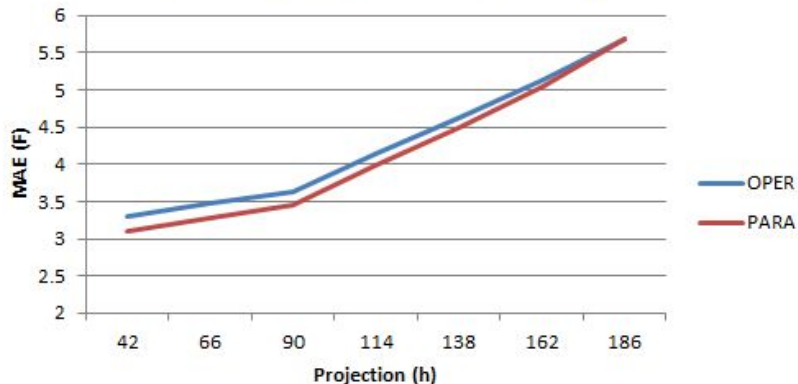


MAE - Nighttime Minimum Temperature Mean - March 2017

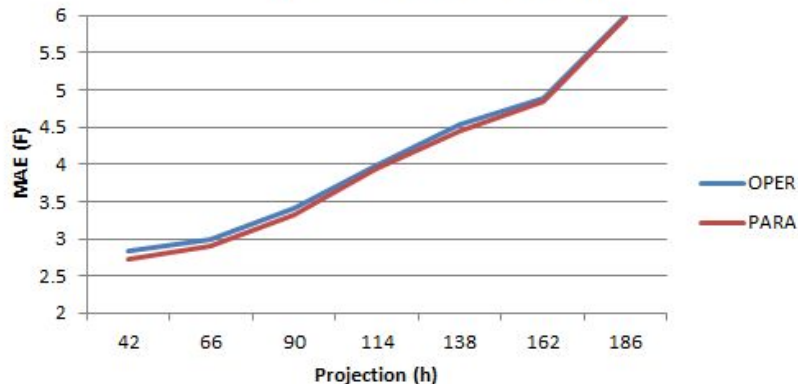


MAE - MinT Mean - March 2017

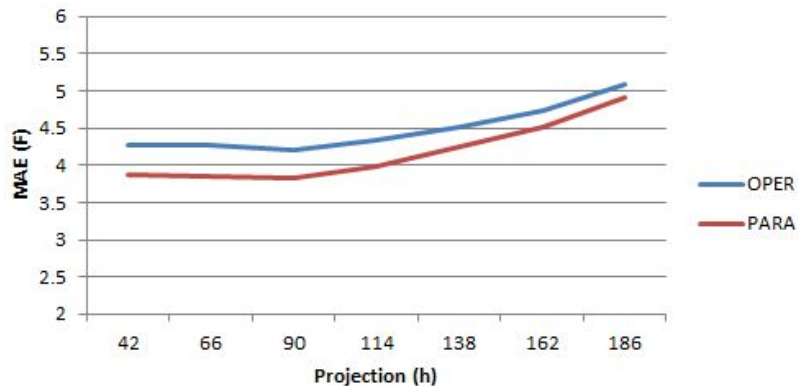
Min Temp MAE: Central Region



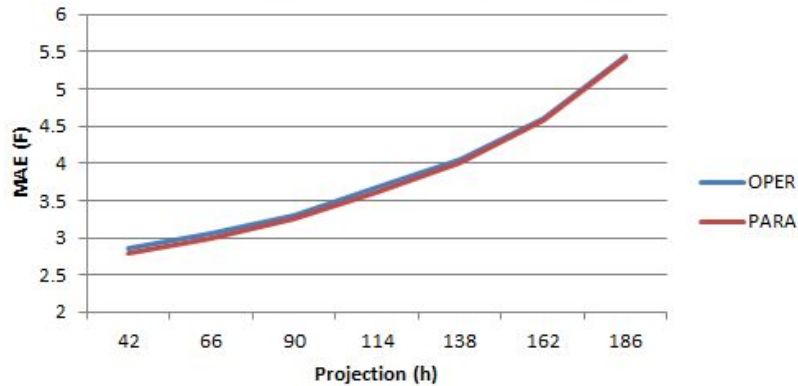
Min Temp MAE: Eastern Region



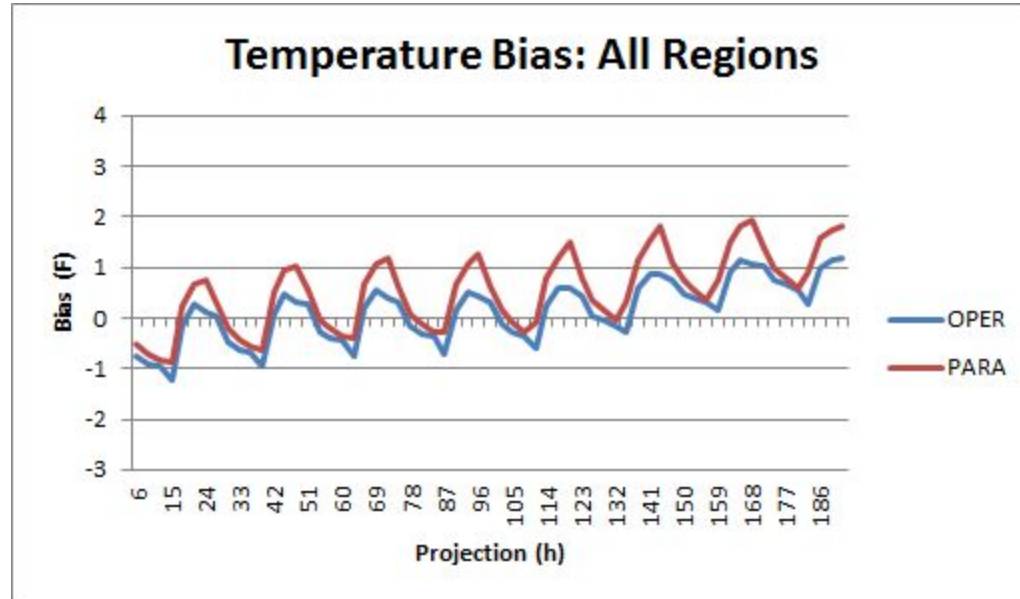
Min Temp MAE: Western Region



Min Temp MAE: Southern Region

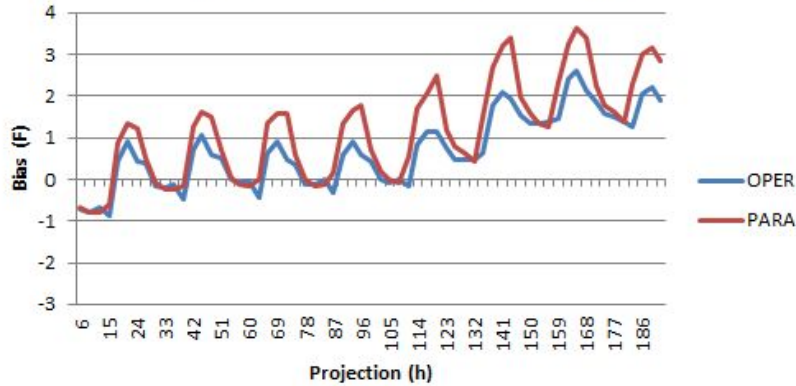


Bias - Temperature Mean - March 2017

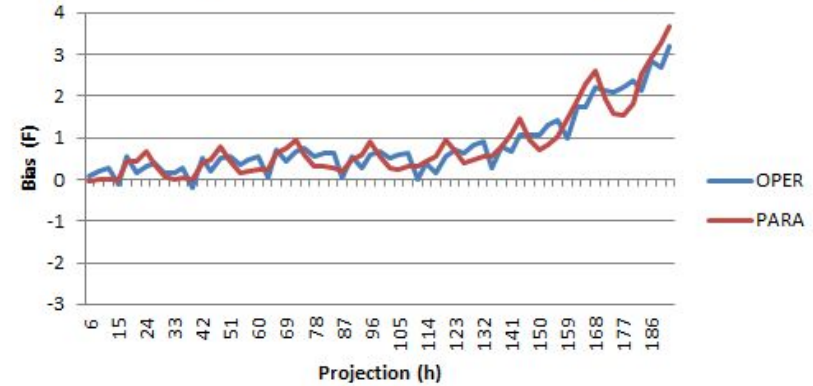


Bias - Temperature Mean - March 2017

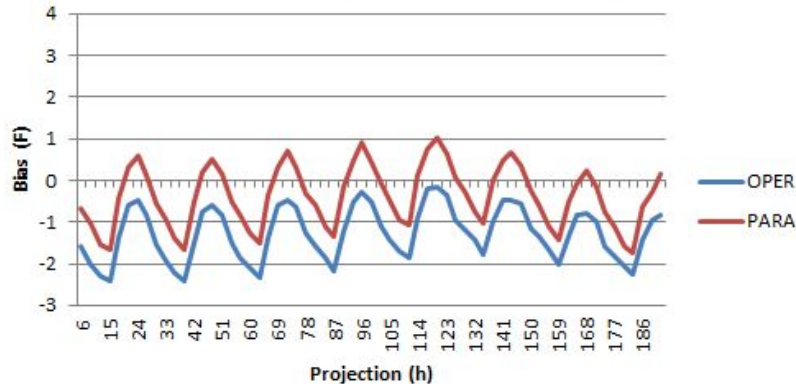
Temperature Bias: Central Region



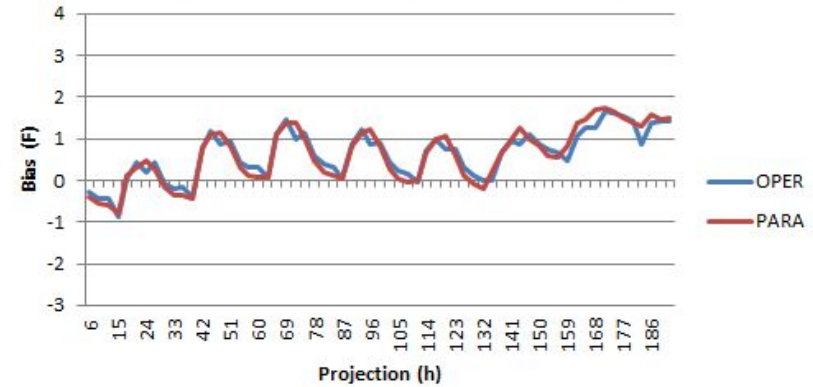
Temperature Bias: Eastern Region



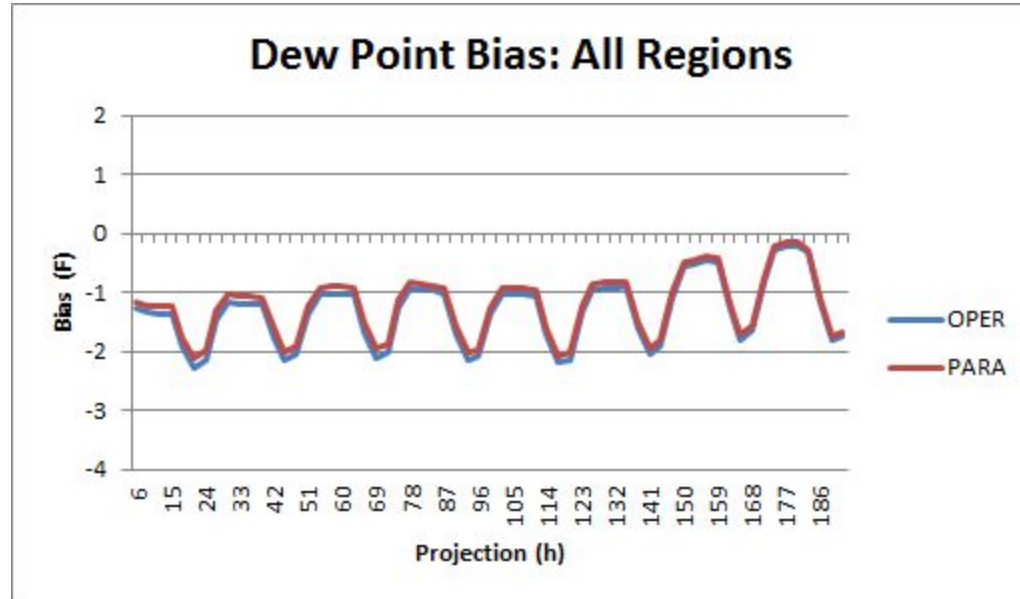
Temperature Bias: Western Region



Temperature Bias: Southern Region

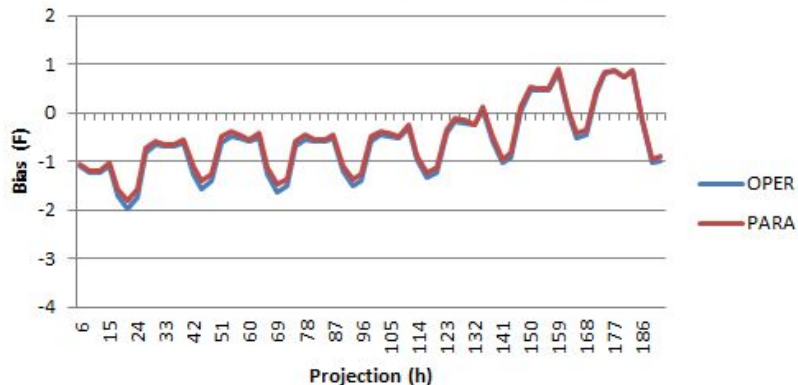


Bias - Dewpoint Mean - March 2017

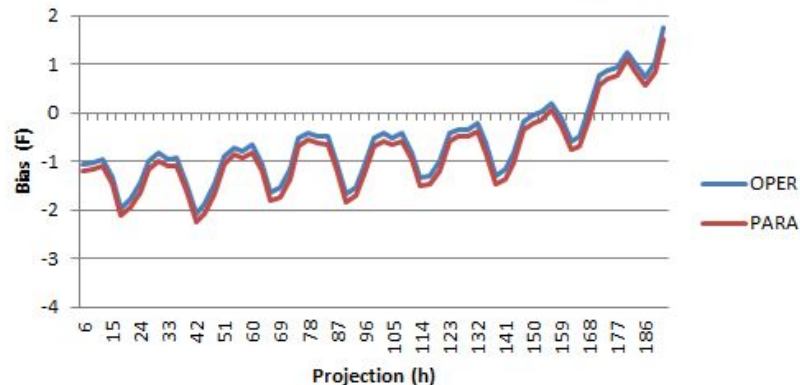


Bias - Dewpoint Mean - March 2017

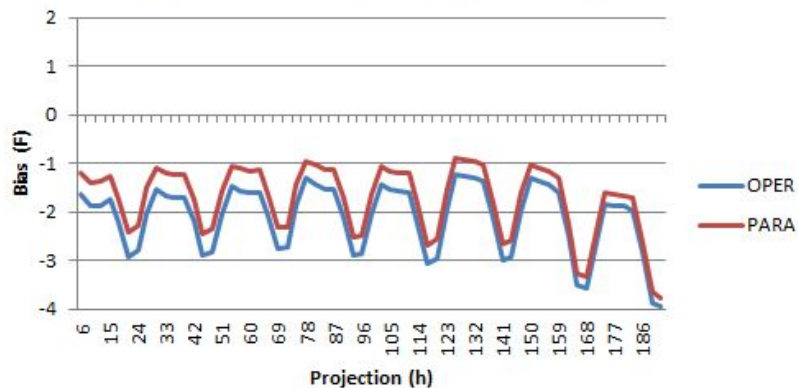
Dew Point Bias: Central Region



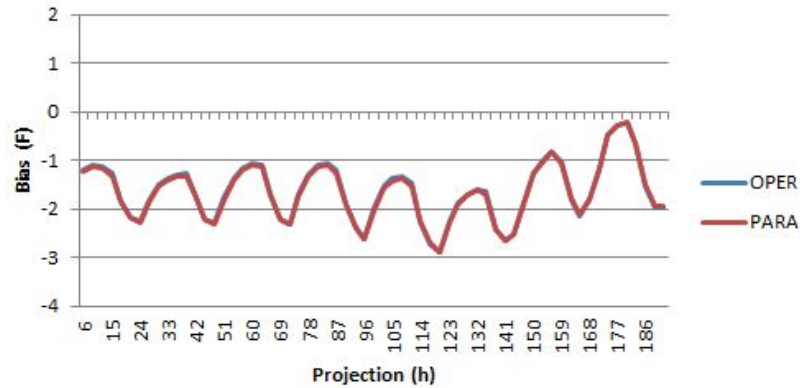
Dew Point Bias: Eastern Region



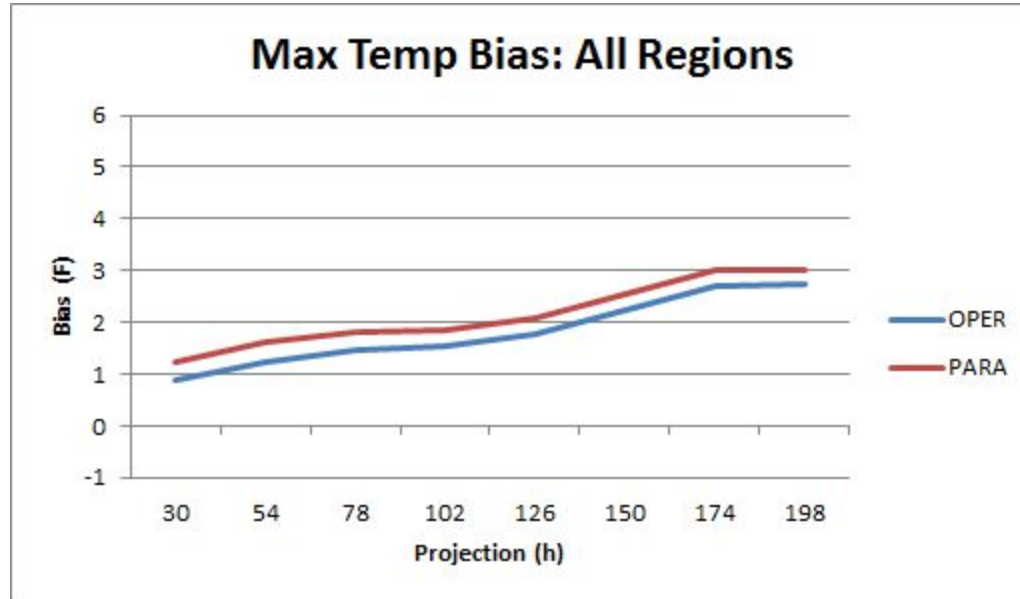
Dew Point Bias: Western Region



Dew Point Bias: Southern Region

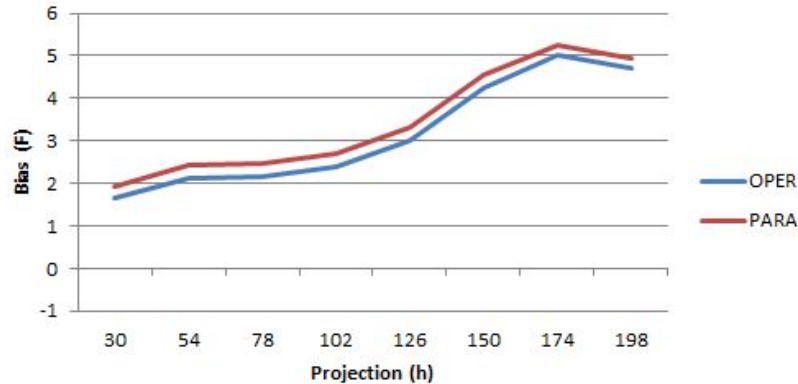


Bias - Daytime Maximum Temperature Mean - March 2017

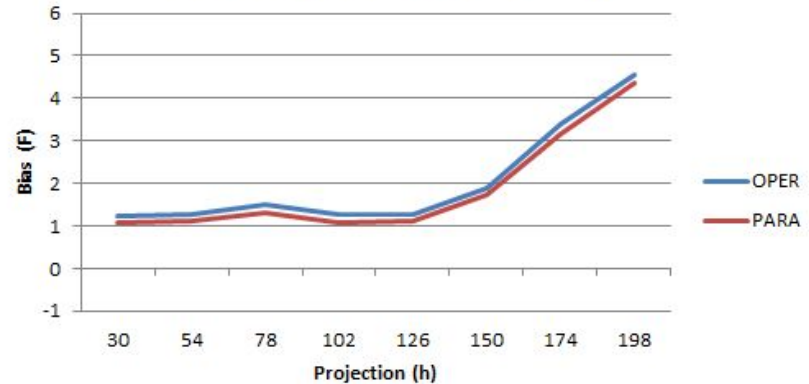


Bias - MaxT Mean - March 2017

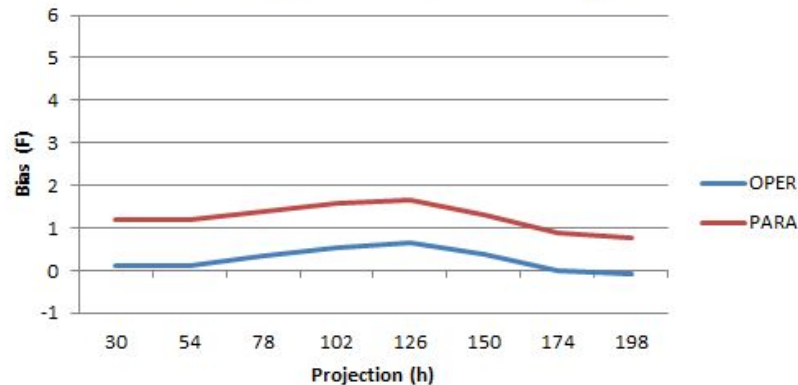
Max Temp Bias: Central Region



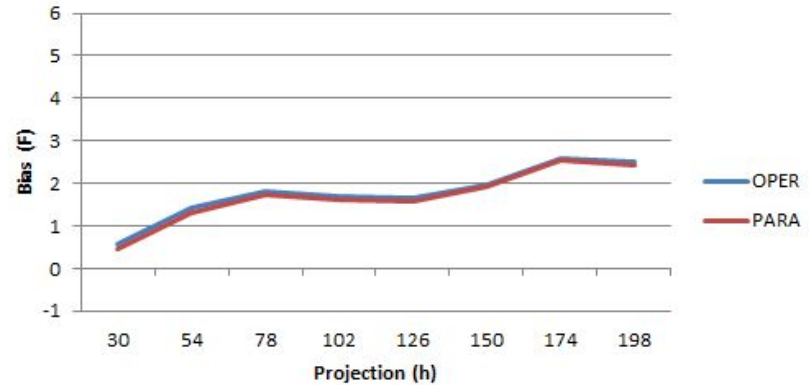
Max Temp Bias: Eastern Region



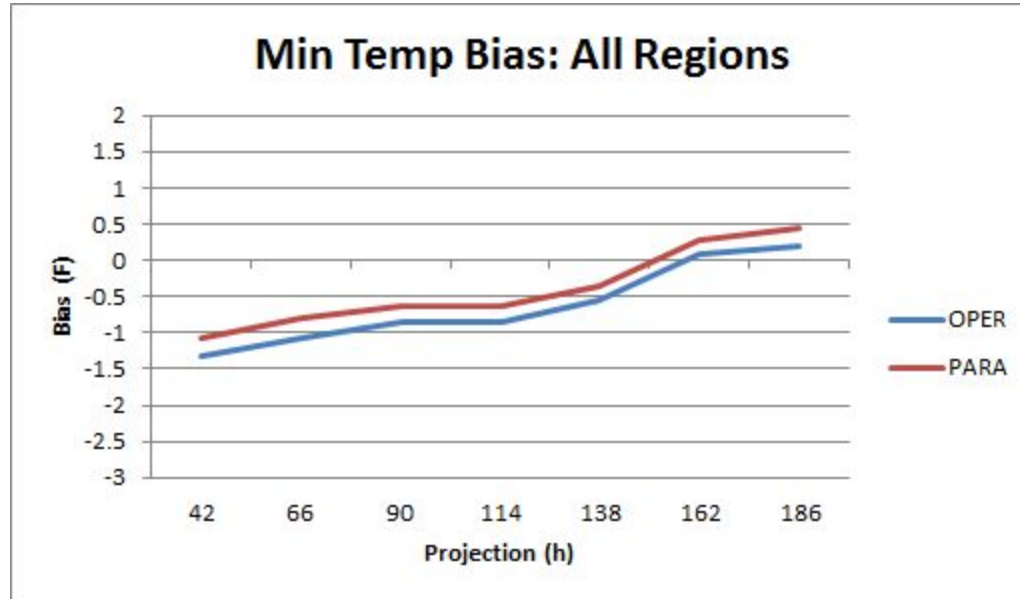
Max Temp Bias: Western Region



Max Temp Bias: Southern Region

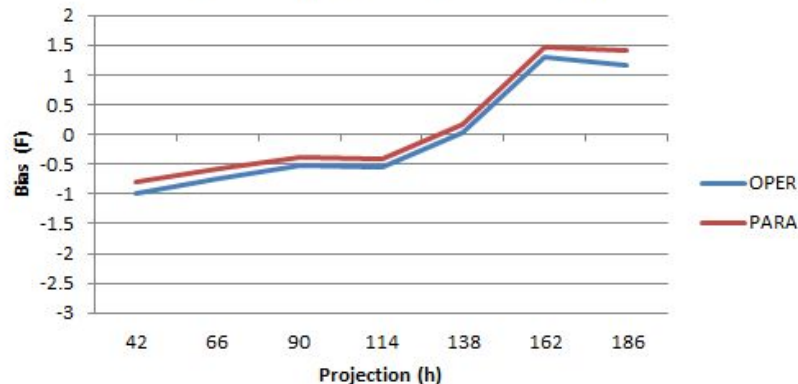


Bias - Nighttime Minimum Temperature Mean - March 2017

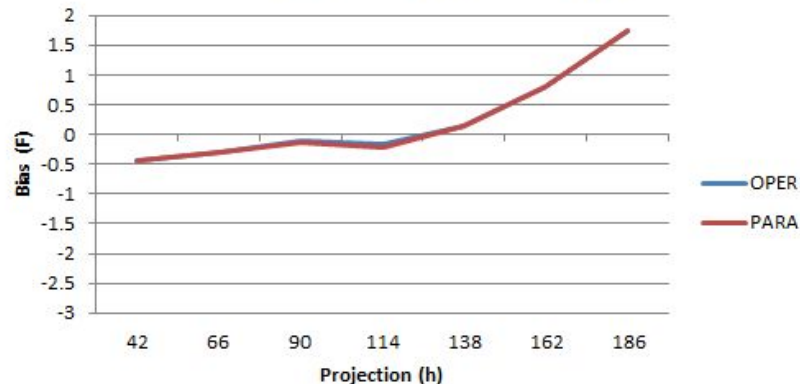


Bias - MinT Mean - March 2017

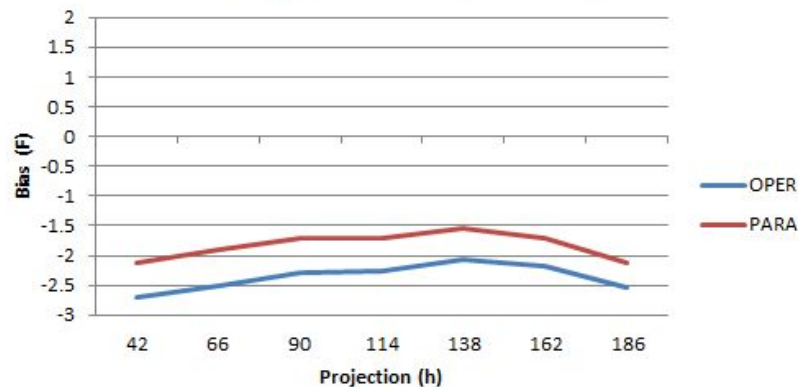
Min Temp Bias: Central Region



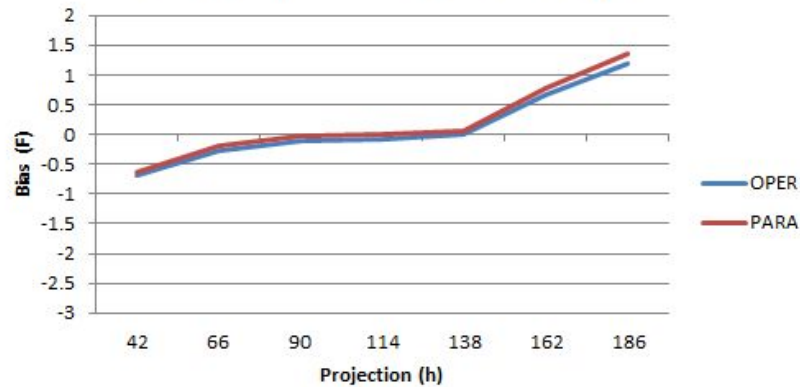
Min Temp Bias: Eastern Region



Min Temp Bias: Western Region

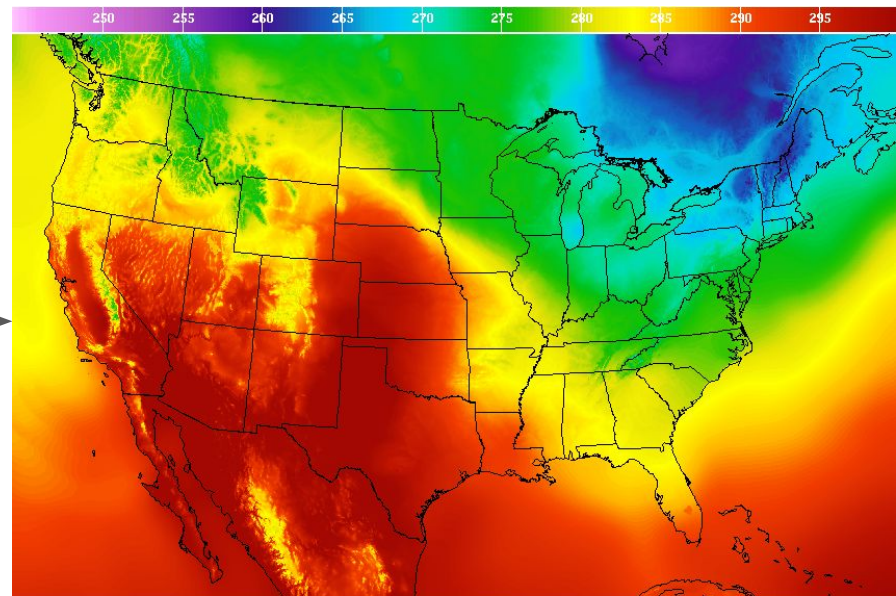
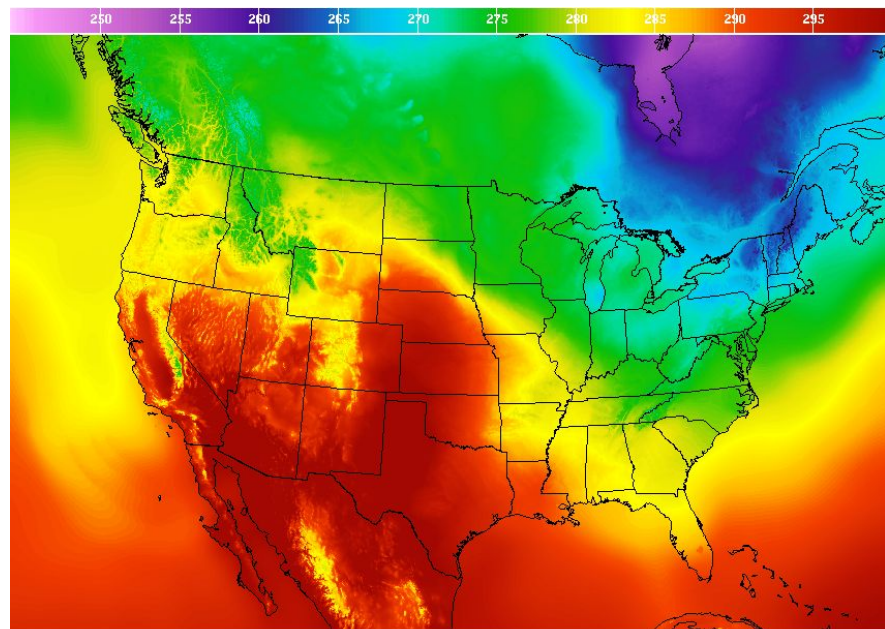


Min Temp Bias: Southern Region



Verification

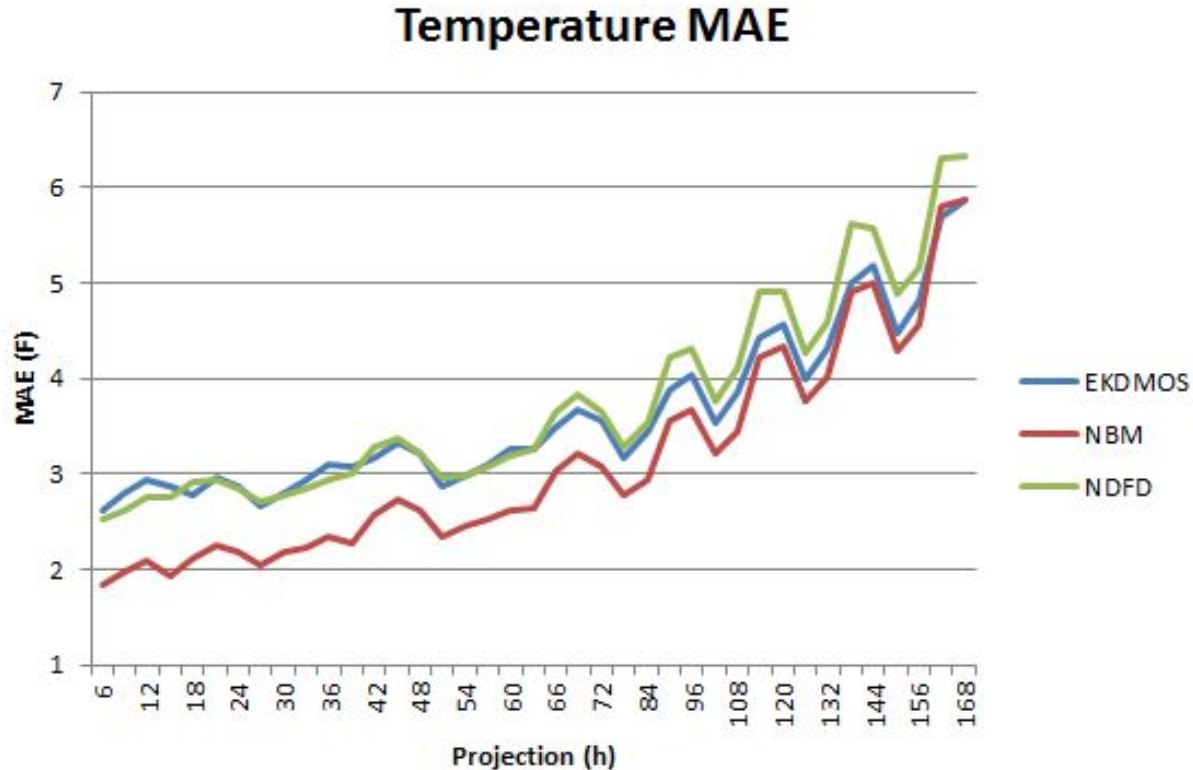
EKDMOS V2.1 and URMA grids were clipped again to match the NDFD grids



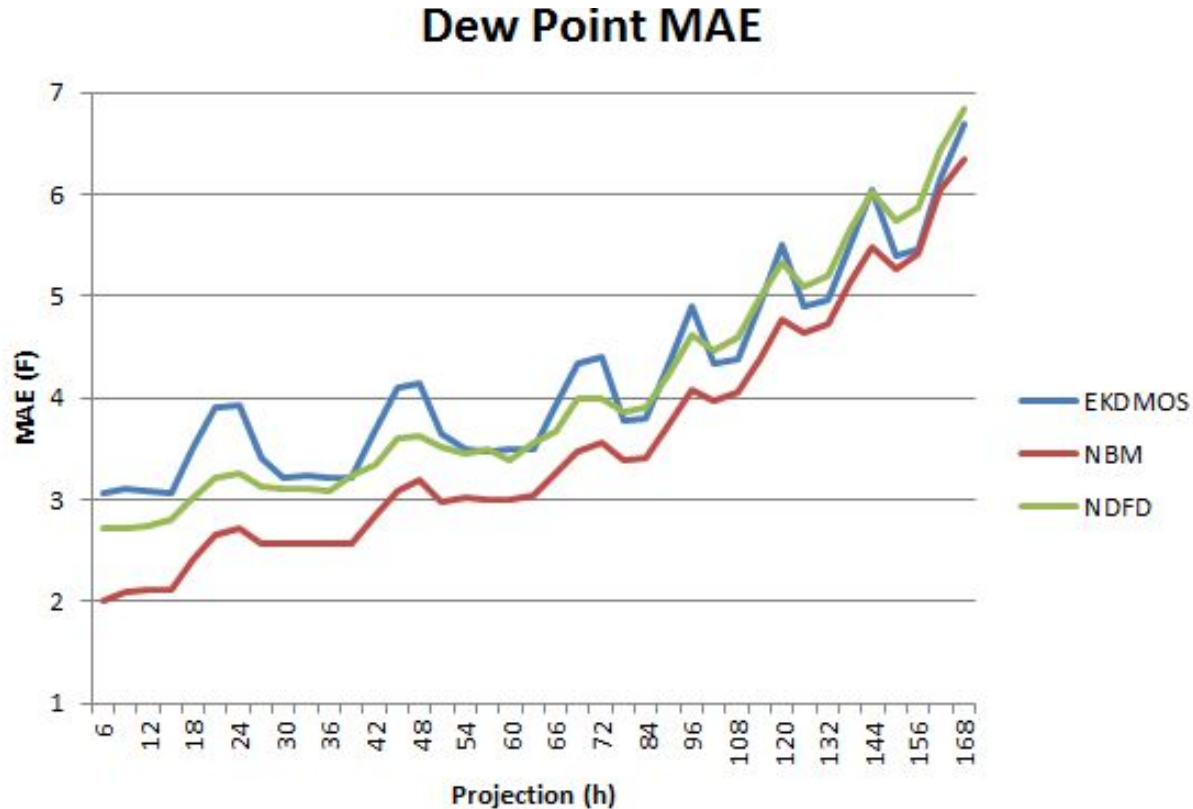
Verification Notes

- Verification performed for March 2017
- URMA grids were used as a “proxy for truth” for EKDMOS V2.1, NBM V2.0, and NDFD
 - NBM V2.0 is tuned to URMA
 - EKDMOS is tuned to station data, then analysed using the BCDG technique
 - EKDMOS is not tuned to URMA for this set of verification. Before EKDMOS is used as an input to NBM, it is tuned to URMA.

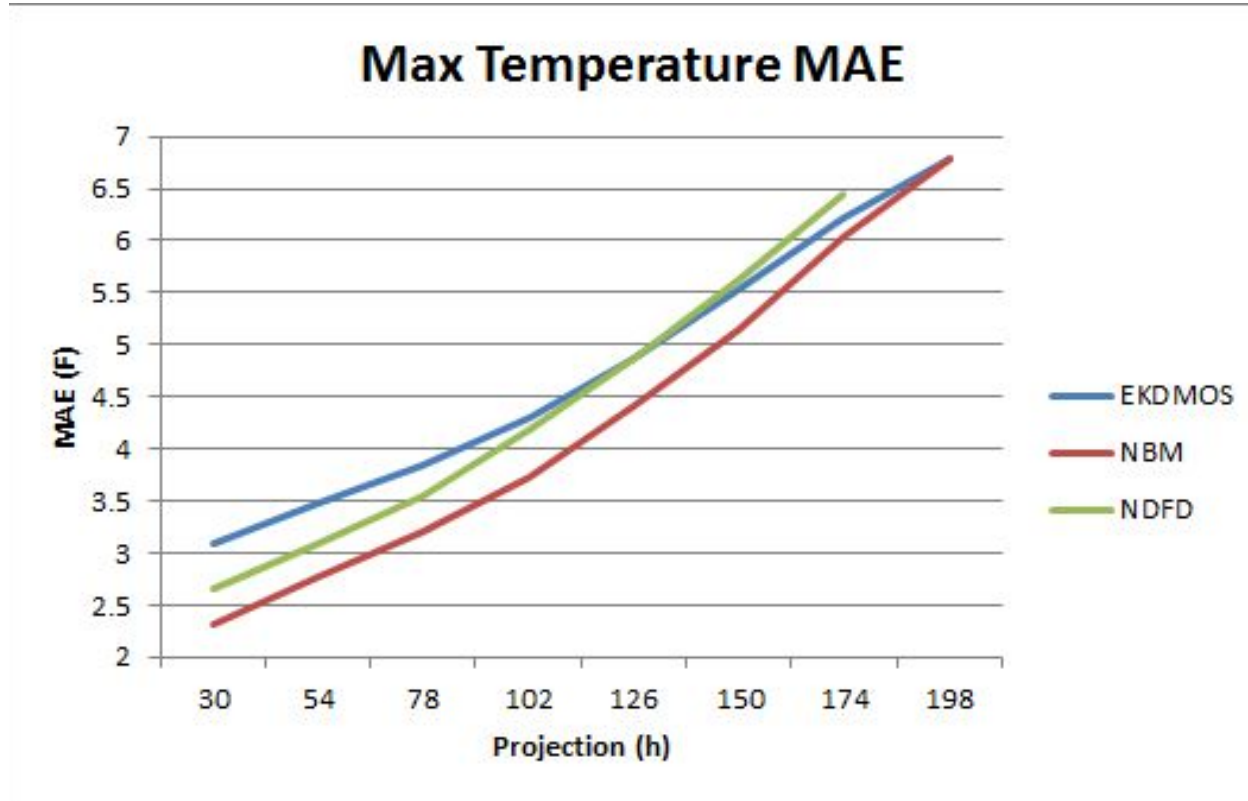
MAE - Temperature Mean - March 2017



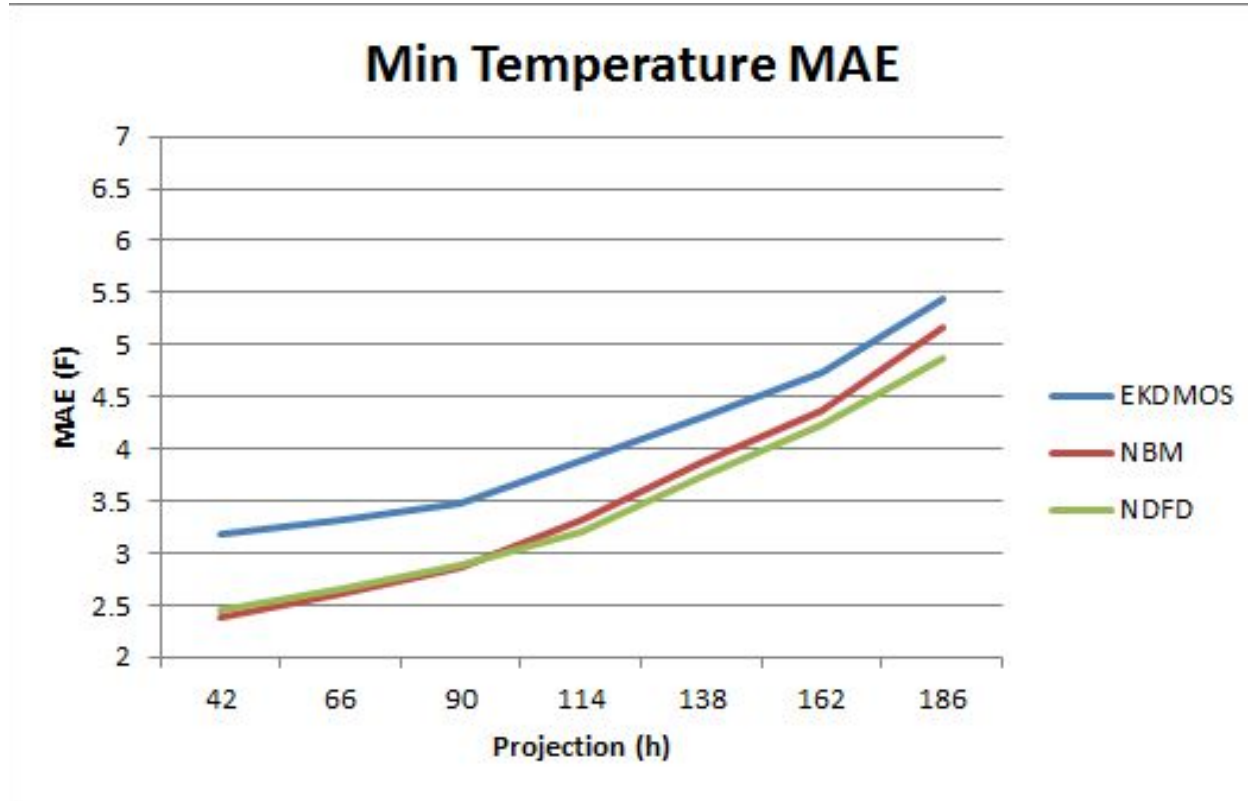
MAE - Dewpoint Mean - March 2017



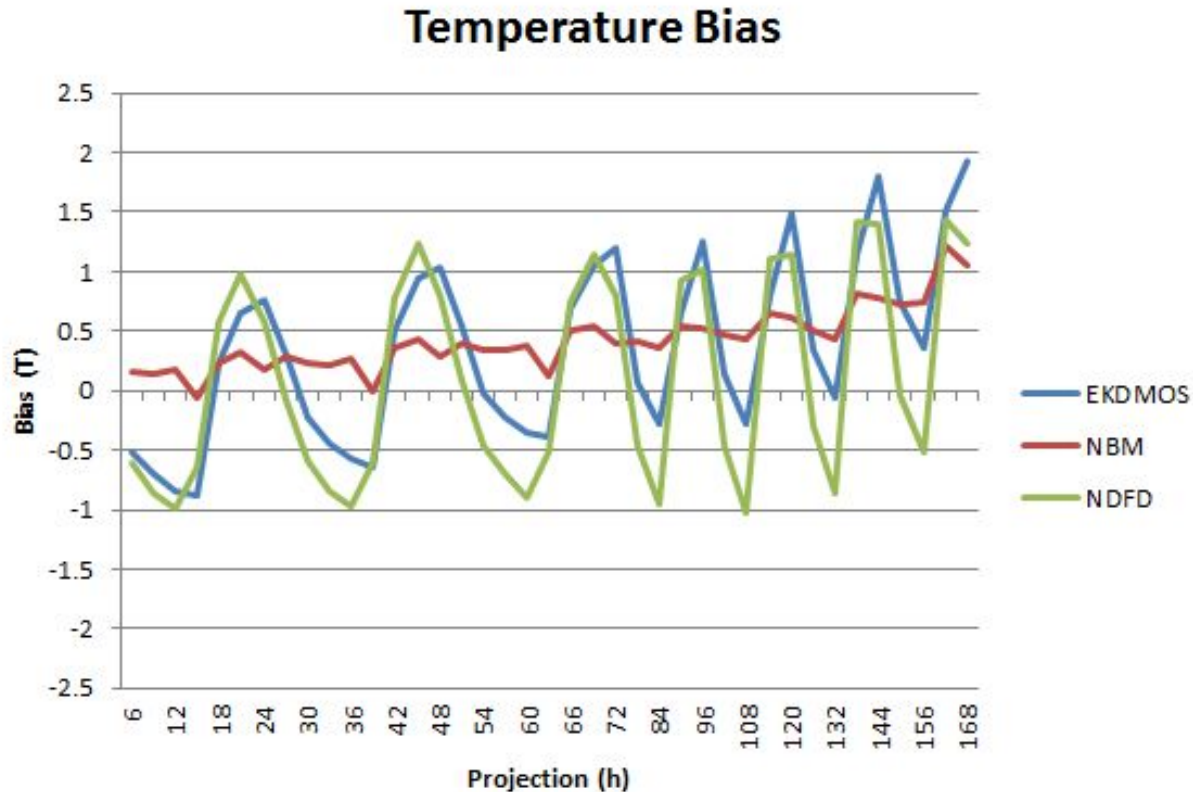
MAE - Daytime Maximum Temperature Mean - March 2017



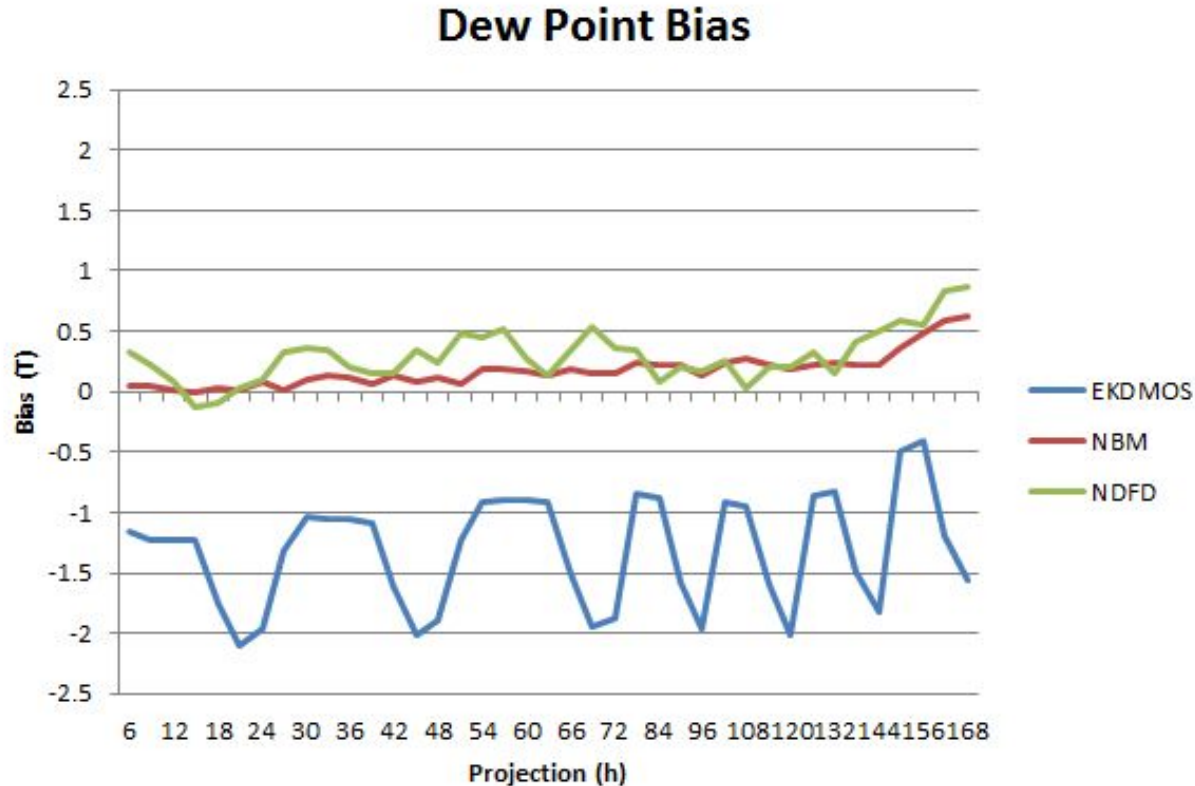
MAE - Nighttime Minimum Temperature Mean - March 2017



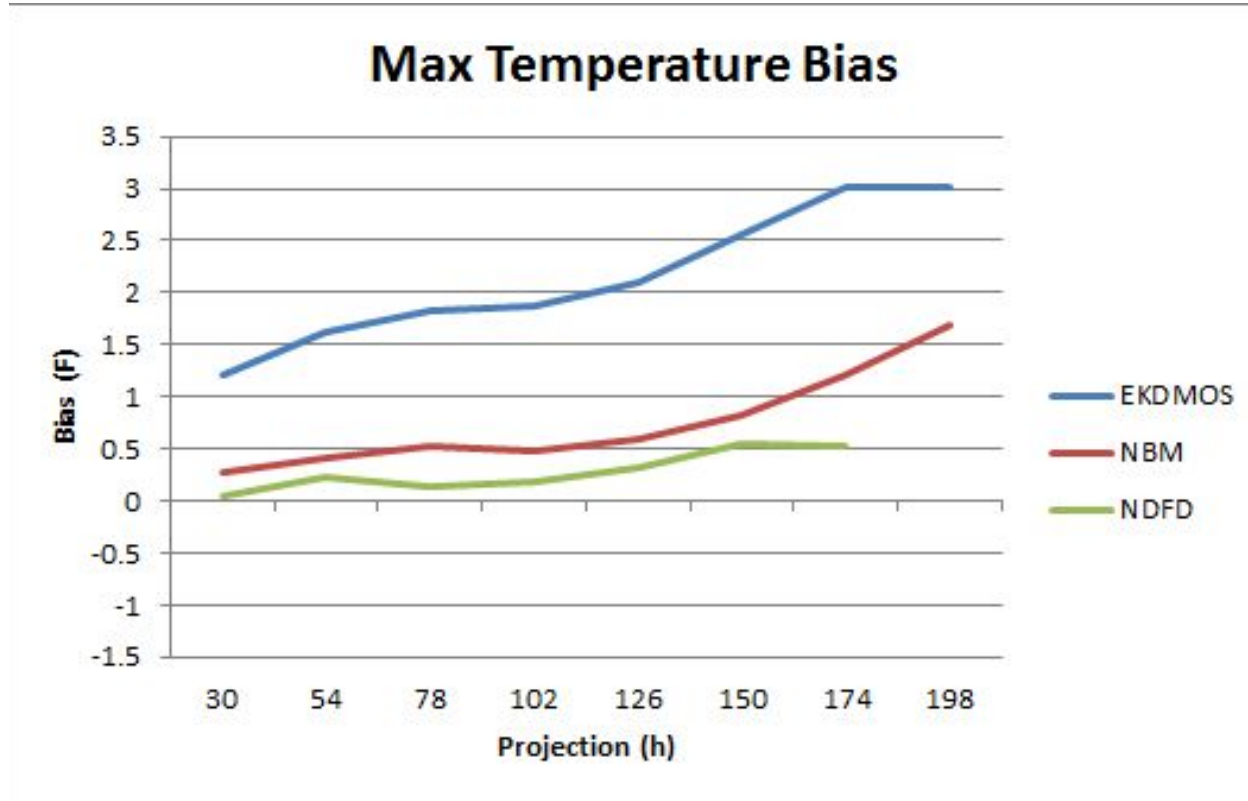
Bias - Temperature Mean - March 2017



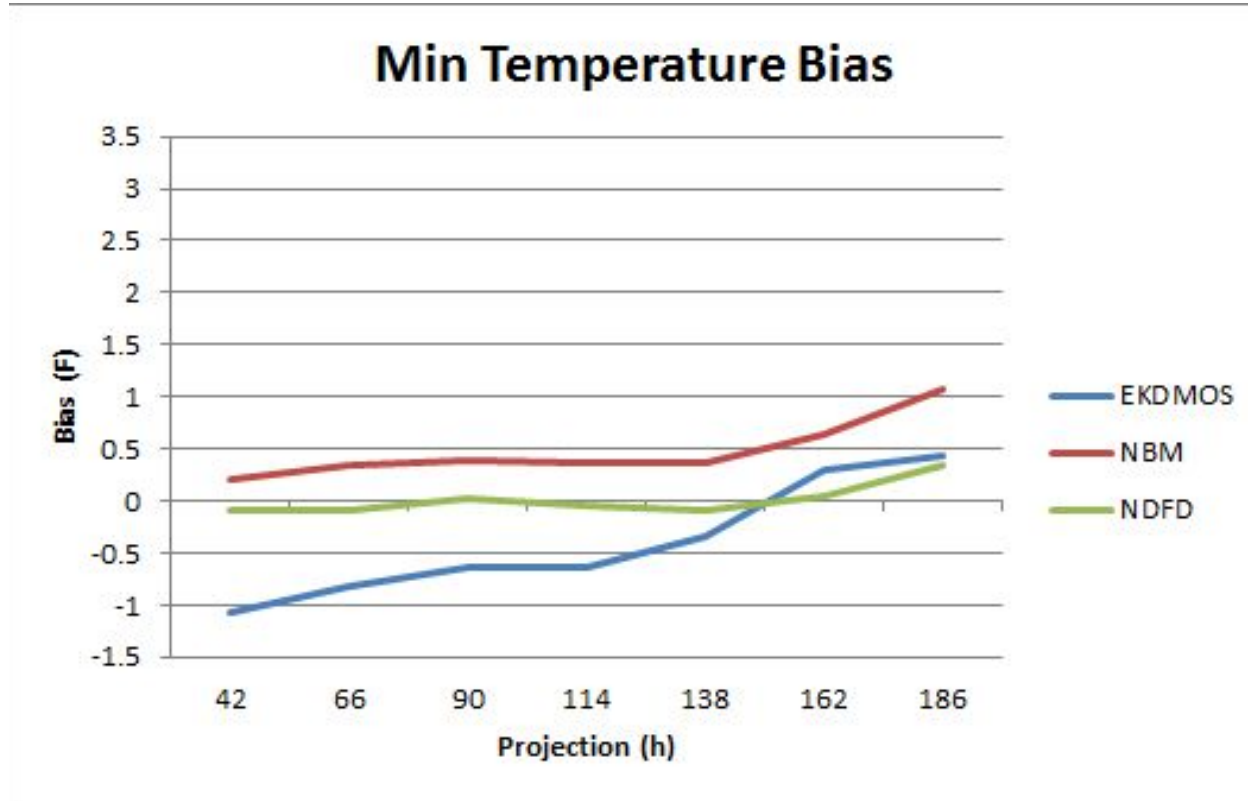
Bias - Dewpoint Mean - March 2017



Bias - Daytime Maximum Temperature Mean - March 2017



Bias - Nighttime Minimum Temperature Mean - March 2017



Updated EKDMOS images for temperature, dewpoint, daytime maximum temperature, and nighttime minimum temperature can be found at

http://www.mdl.nws.noaa.gov/~naefs_ekdmos/CONUSekdimgs_v2.1.php

Your feedback is appreciated!

John.L.Wagner@noaa.gov

Jeffrey.Craven@noaa.gov